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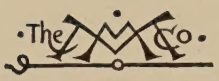

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MENTAL HYGIENE

BY

DANIEL WOLFORD LA RUE, PH.D.

AUTHOR OF "THE SCIENCE AND THE ART OF TEACHING" "PSYCHOLOGY FOR TEACHERS," "THE CHILD'S MIND AND THE COMMON BRANCHES," ETC.

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WHATEVER light this book may throw on the subject of mental health is reflected in part from superior luminaries. Much general help has been received from the writings of others — as is indicated by many footnote references — and much specific aid from those who have read the manuscript. The chapters relating to inheritance were read by Dr. Charles B. Davenport, Director of the Department of Genetics of the Carnegie Institution of Washington, D. C. Among those who have read the entire manuscript is that worthy successor of William James, Professor William McDougall of Harvard, to whom I am especially indebted. In acknowledging my obligation to these kindly men of genius, I wish to absolve them from all blame for any imperfections the book may show, and to assume full personal responsibility for the work as it stands.

D. W. L.

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LETTER OF INTRODUCTION

Dear Fellow Student:

My purpose in writing this book has been to carry to you the working truth about mental health as it appears to me after several years' study and teaching of mental hygiene. I have tried to include that which is most interesting and important for you to know in order that you may school yourself and your children or pupils in the ways of the healthy mind and thus contribute to the mental health of the community.

The first essential appears to be an understanding of those factors which, because they determine personality, either make or break us, according to the way we deal with them. We shall find (in Part One) that mental disease and health are something which, within limits, can be practiced and *learned.*

But we shall also find that many of the traits that enter into personality, and which constitute a predisposition toward mental health or disease, are inherited. Accordingly, we take up (in Part Two) a brief genetic study of the self. The discussion of mental disease and its treatment is presented as a guide toward mental health.

Having gained this further insight, we turn (in Part Three) to the course which marks the only sure way of becoming a superior teacher or a superior individual of any profession; namely, the developing of a fine, strong, hygienic,

happy personality. Here is presented the mental hygiene of such life problems as relate to vocation, recreation, the love life, and to social adjustments in general.

All this, I hope, will serve as a cumulative introduction to PART FOUR, the aim of which is to help you in a very direct way in your daily dealings with those about you — especially with children.

This marks out an ambitious program, involving an extended survey; but I share the widespread conviction that an introductory course in any field should be of this general nature, and that it can be considered without superficiality. Perhaps later you will wish to study some portion of this field in a more highly specialized way. You can make a beginning in that direction by working out some of the "Topics for Special Investigation and Report," given, with references, at the close of chapters. A preliminary knowledge of general psychology, although of course desirable, and to some extent presupposed, is not indispensable in following the present work.

Finally, remember that truth is *something to be done*. Knowing the truth will not "make you free" unless knowing includes doing; and to find out the truth without *doing* that truth may be worse for you than never to have learned it at all. Health of mind, even while we possess it, is something to be earned constantly. Oftentimes they prize it most who work hardest to secure it.

Faithfully yours,
DANIEL WOLFORD LA RUE

STATE TEACHERS COLLEGE,
EAST STROUDSBURG, PENNSYLVANIA.
JUNE 1, 1927.

PART ONE: GENERAL

A Systematic View of the Forces That Determine Personality

The essential principle of education is not teaching; it is love.
— PESTALOZZI.

PART ONE

CHAPTER I

Nature of Mental Hygiene

Exercises. — 1. "How came you here?" asked a visitor of a patient in an insane asylum. "Well," was the reply, "I thought the rest of the world was crazy, and the rest of the world thought I was crazy. The majority ruled; so they ran me in, and here I am."

Does this indicate the real difference between sane and insane, a difference of opinion and of majority vote? If the Spanish court had voted Columbus *non compos mentis* (unsound of mind), what, in your judgment, would this have indicated? State what you regard as the essential difference, or some differences, between the sane and the insane. Do not attempt to draw the line sharply, for even experts are unable to do that.

2. Mental hygiene is the science and the art of avoiding mental illness and preserving mental health. Write ten original questions which you think the study of such a branch should help us to answer. Some of the questions may well indicate very practical accomplishments toward which the study ought to guide us.

"A mind that found itself." — As you are a student of mental hygiene, you will no doubt be interested in the case of a fellow student, Mr. Clifford Whittingham Beers. He passed quite the usual type of youth in his native city of New Haven, Connecticut. He had finished a high school course and was just entering Yale University when his

brother was suddenly stricken with epilepsy.[1] While in college he spent much time with his epileptic brother, and at length became obsessed by the fear that he, too, might be smitten with epilepsy. In fact, he feared it worse than death. He "thought epilepsy, dreamed epilepsy," and so vividly that thousands of times during the next six years he seemed, in his distressed imagination, to be the victim of an epileptic onset. He worried his way through college with great nervous suffering, doing his work successfully but keeping his fears and despairs locked tightly within his own soul.

On leaving college he entered business life, but three years later collapsed mentally, underwent the delusion that he was a confirmed epileptic; and, as he preferred death to the life of epileptic terrors which he thought lay before him, he attempted suicide by leaping from a fourth-story window. He survived; but his barred window at the hospital started in his weakened, agitated mind the delusion that he was a prisoner and was to be tried for a crime — a delusion that lasted for over two years. His relatives became, to him, deceiving doubles, substitutes, sometimes detectives. God died, so far as the patient was concerned.[2]

Yet he recovered, after years of illness, suffering, and maltreatment, and devoted himself to an idea that he had

[1] The bodily conditions underlying this disease are heritable. But in this case it was not due to inheritance nor was it idiopathic, that is, due to conditions resident within the system of the patient. The conclusion of the physicians was that it was caused by a tumor at the base of the brain.

[2] The torture of illusions and delusions was multiplied by the cruel, sometimes unbelievably inhuman treatment of doctors and attendants, in hospitals and asylums, both private and public. One attendant, who must have been little short of a fiend, knocked him down, kneed him, choked him, tried to grind a heel into his face, and only left him when he feigned unconsciousness.

conceived while still a patient in an institution, namely, the proper care of the insane. From this grew our national movement, with its National Committee for Mental Hygiene, and later the world movement along the same line.

Mr. Beers, on his recovery, was able to recall all his experiences with wonderful clearness and detail. He has embodied them in a most remarkable book called *A Mind That Found Itself*, a book which, with others like it,[1] every student of mental hygiene ought to read; for such literature gives a very appreciative insight into the mental condition of the insane — or at least some of them — how they live in the same world with their sane neighbors yet in an opposite mental hemisphere, how they enter the shadow and how they sometimes emerge from it.

Questions that mental hygiene should help to answer. — To indicate further the extent of the field of our subject, consider the following questions which mental hygiene should help to answer, selected for the most part from the papers of students. Note that these questions are grouped so as to suggest the contents of the four parts of this book.

General. — What keeps us sane? Why do people go insane? Is any one of us liable to go insane at any moment? Why is it impossible for some people to go insane? Is an insane person conscious of pain? Why does monotony have a bad effect on people? What is fear? Why do some people blush? Why do we so often dream we are falling, and then awake with a start? Why do people kiss? Why do they flirt? Why do they faint? Does the insane person know what he is saying? Why does the physical strength of a mad man increase, and why does not the mind grow stronger when the physical organs act so powerfully?

[1] See, especially, Jane Hillyer's *Reluctantly Told.*

When a person is maladjusted, is there any other organ, in addition to the nervous system, that is not functioning properly? How can we find out the laws of mental health?

Genetic. — What is heredity? Can we blame a person for his actions if he is born physically or mentally weak? Does environment cause insanity? Will hard thinking on one subject drive a person insane? What causes mental deficiency? Is insanity inherited? What causes hysteria? "Spells"? Sleep walking? Dreams? Does personality ever change? Is it worth while to fight against one's inheritance?

Personal. — Why are we gloomy on some days and happy on others with no apparent reason? Why do we dislike those who resemble our enemies? How can we keep from being self-conscious? Nervous? Why do some girls form "crushes" on other girls? Are we all insane at times? How can one put himself to sleep? Do like natures attract each other, or are opposites more attractive? How can we control and cultivate our feelings? What effect does religion have on mental health?

Juvenile. — To what extent should fear be used in the control of children? Can there be too many or too strong home ties? How should children be trained in matters of sex? Should we attempt to form a child's nature, or let it grow without much restraint? Is it probable that insanity, nervous breakdown, etc., in later life are often caused by the kind of discipline the child undergoes? May possible cases be prevented by early training? What can be done for a child who has no apparent ambition? Why do some boys and girls run away from good homes? Can a child of rather low mentality become more intelligent through study? Which has the greater influence in controlling the develop-

ment of a child, inheritance or environment? Should mental hygiene form a part of the curriculum of all who are preparing to teach?

The anatomy, physiology, and hygiene of mind. — We are all familiar with the terms anatomy, physiology, and hygiene as applied to the *body*. "Anatomy" comes from two Greek words which together mean "to cut up." It is the science of structure, and can be studied in a dead body. "Physiology" carries in its Greek root the idea of nature producing something. It is the science of function and needs to be studied in a live body. "Hygiene" is almost exactly the Greek word for *health*. Hygeia was the goddess of health. Hygiene, the study of health, aims not merely to keep the body alive and its organs functioning in some fashion, but to keep them all working in a coöperative way — the condition of health.

Analogously, we have our *mental* anatomy, physiology, and hygiene. The old-fashioned psychology (as we may term it without disrespect) anatomized the mind, cut it into bits, and there left the dead dust. Your "new idea," for example, the product of your creative imagination, was taken apart and found to be composed of nothing else than fragments of old ideas, somewhat as a new patchwork quilt is made of old patches. Such psychology is called *structural;* and because it fixed its attention on "states" of mind rather than mind in action, it is known as static.

The new psychology has become more *functional* and *dynamic* than the old — a kind of mental physiology. It wants to know, if the mind is to be thought of as having "parts," what these parts do. Take the case of creative imagination as an example. What does imagination *do* for us? What difference does it make practically if the lower

animals — and some people — have so little of it and many master minds have so much of it?

Finally comes mental hygiene with a different purpose still; for it aims not merely to keep the mind alive and its "parts" functioning in some fashion, but to keep them all working in a coöperative way — the condition of health. To achieve this purpose it gathers from its own investigations and from other branches every fact that it can lay hold of to advantage.

Relation of mental hygiene to other branches. — As indicated in Figure 1 (page 9), some of the other branches, in addition to the hygiene of the body, to which mental hygiene is most closely related, are psychology, medicine (especially that division of medicine known as *psychiatry*), eugenics, sociology, law and government, morals and religion, and education. You have observed, no doubt, that it is no longer possible to keep various subjects of study from overlapping; for the boundaries of a branch are determined, not by any artificial separation of subject matter, as if for placement on museum shelves, but by human interest, by purpose, by the end to be achieved. There is a strong and growing tendency, especially when presenting our facts to practical workers, to organize them for *action*.

Let us glance at these related subjects in order to help us understand our own:

Psychology is the general science of mind, that is, of thoughts and feelings, including the relation of these thoughts and feelings to what we do. But psychology is equally interested in all minds, without regard to whether they are sick or well. It furnishes many facts and laws, some of them, such as the laws of learning, fundamental in mental hygiene; but the question, How can I keep my mental self healthy,

working efficiently, and happy? pure psychology never tries to answer.

Psychiatry is the study of mental disease, and so it may be regarded as the negative side of mental hygiene. Hygeia,

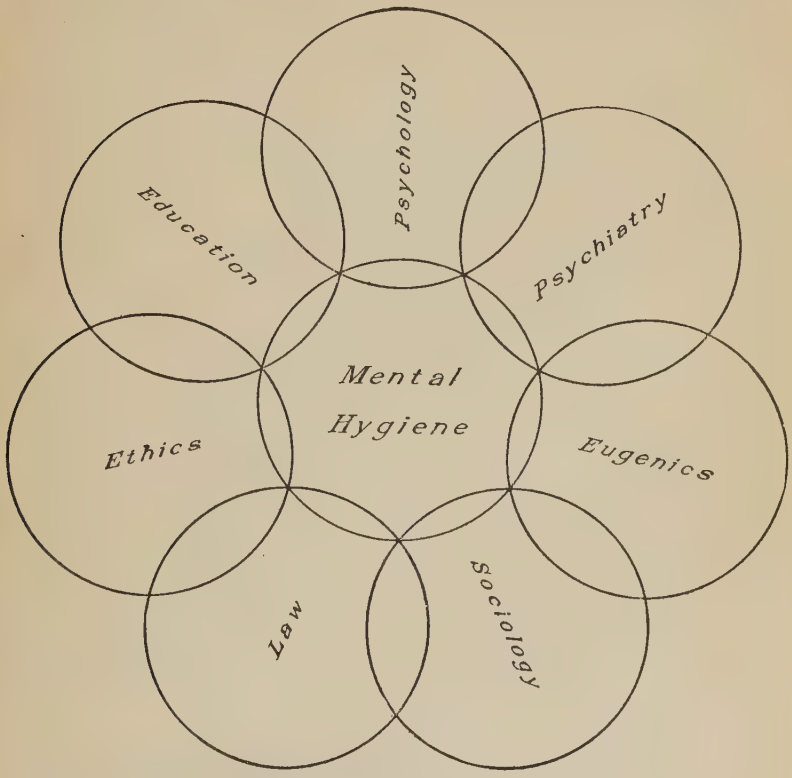

FIG. 1. — Showing the relation of mental hygiene to other branches.

goddess of health, was the daughter of Æsculapius, the god of medicine. In these latter days it is the earnest aim of this daughter, by preventing mental illness, to leave her father ever less and less to do.

Eugenics aims to get children better born. We are coming to see that we cannot keep people healthy-minded unless they are well born. Some are so fortunate as to come into the world with such good brains and minds that nothing short of violent means, such as poison or a blow on the head, can ever drive them insane. Others are born with such poor cranial capital that nothing can prevent insanity at a certain age, and this without any unusual strain whatever. Eugenics gives us indispensable aid in understanding some of the phases of mental disease, and mental hygiene helps in dealing with various types of inheritance.

Sociology brings us into touch with the problems of the group, with the family, marriage, divorce, alcoholism, and questions relating to the church, the school, government, business, and so on. Many divorces and not a few marriages are the result of mental illness. Alcoholism is frequently a form of mental disease. Also, many individual desires are so restricted and repressed by social custom, as when the mateless want marriage or the poor want to seize property but find public opinion or the policeman against them, that mental unbalance may result. Mental hygiene must build on proper public opinion, at the same time aiming to aid the individual, enlarge his freedom, make his yoke easy and his burden light. It may even hope to help end that form of group conflict known as war.

Law, in its many dealings with persons and property, meets the problem of mental health in such questions as those of motive and responsibility. It needs to know, not only whether the prisoner is responsible, but whether there is not some better way than to postpone the mental examination until he has been tried and found guilty. There is good authority for saying that the cost of crime in the United

States alone has mounted to the sum of ten billions of dollars a year. Research in criminology indicates that by changing the mental condition of many possible criminals we can prevent much crime. Law can establish standards of life and labor, with punishments and rewards. Mental hygiene can bring contentment to many who are unhappy, and the contented citizen breaks no laws.

Ethics, *Morals*, and *Religion* give us, respectively, the science of good conduct, the art or practice of it, and the divine sanction for the loftiest type of life. All three concentrate on the conviction that we ought to keep our souls in a sanitary state, and be very charitable in judging the conduct of the mentally ill, and in our treatment of them, whether in hospital, home, school, or community. Mental hygiene shows how to achieve this ideal, and to make commensurate allowance for individual differences in nature, nurture, and the urge of the environment.

Education is the science and the art of developing each child, according to his individual traits, so as to make him most socially useful and happy. But education has devoted itself largely, too largely, to the imparting of information and the developing of intelligence, leaving the feelings neglected. Yet the feelings, the strong likes and dislikes, the interests and aversions, are the motor of the mind; ideas are only its wheels and roadways. Pupils who graduate from some of our schools have minds like railroad yards, with many switches full of cars but nothing to give pulling or drawing power. Even mental hygiene cannot create feelings; but it can stimulate and develop those that exist to their highest pulling power, avoiding wastes and explosions.

Mental hygiene is the science of happiness. — Happiness is, in general, the sign of mental health. But it should be

lasting happiness; for of course one can be happy for the moment, like the maniac or the drunkard, without having a mind that is really healthy. "Keep 'em smiling" was one of the slogans by which we reminded ourselves, during the World War, that our boys overseas must be kept in a condition that was mentally hygienic.

Mental hygiene is an art also. The science gives us the "know how"; and the art teaches us to *do*, in a practical way, whatever is necessary to keep us in mental health. It would hardly be sentimental to say that mental hygiene is the science and the art that teaches us to take life with a smile.

On paper, you can get the science and the rules of the art; but you must do your own practicing.

Happy living requires adjustment with environment. — Even plants have to be adjusted with their surroundings, must have plant food, moisture, and other necessities, or perish. But ideas never kill plants; their thoughts do not injure them. Their superstitions or mental blunders never lead them astray, nor do their emotions cause disease. In other words, while plants have to be adjusted, they do not have to be *mentally* adjusted with environment. Man does have to be so adjusted.

So do the lower animals, to a limited extent. As we come up the scale of animal life, from ameba to fish, fish to reptile, reptile to bird and mammal, we find that mind becomes more and more the steering apparatus for the creature. Adjustment becomes more and more complicated, brain becomes heavier and heavier in proportion to the weight of the body, and thoughts and feelings become better and better guides as to how to win in the struggle for existence. Compare the cave man with the animals he has to compete with. He has no tusks, talons, horns, hoofs, fur, feathers, great strength, or

swiftness. Yet he survives and excels while they dwindle and become his slaves. It is by his brain that he dominates them. Mind wins the mastery.

Happy living requires a healthy mind. — If your mind is really your steering apparatus, it is just as essential to you to keep that mind in prime condition as it is that your automobile steering gear shall be perfect if you want to avoid a wreck. We are coming to see that even a college graduate, if he shoots himself because of some love scrape or the loss of money, is not truly educated. Neither is that student who stands high "in book learning," but graduates as a nervous bankrupt; nor the young woman who, having a strong love nature, suppresses it as something undesirable and becomes, as far as possible, a mere animated intellect.

To sum up our last two topics: Happy living requires that one shall (1) adjust himself well with the environment of things and of people about him and (2) manage well the mind inside of him. And managing the mind means, for the most part, managing the impulses, desires, moods, emotions, passions — "the feelings" in general. Such are the objects of mental hygiene. If present-day life is as self-indulgent and unstable as it often appears to be, then there is a clear call for mental hygiene as the royal remedy.

The value of mental hygiene. — The tests that Herbert Spencer established to determine what knowledge is of most worth have not yet been surpassed. Let us by means of them find out what value — potential value at least — lies in mental hygiene.

Direct self-preservation is the first test. If self-preservation is nature's first law, it is self-management that enables us to obey that law. Kempf gives a case of a most reliable planer who had his hand torn off in a machine. "This man had the

reputation of never having had an accident during many years of service. The night before, his wife had gone on an escapade with another man."[1]

Indirect self-preservation, as a test, also ranks mental hygiene high. There are in our country to-day thousands of children who will suffer mental aberration unless they are mentally hygienized — and it is the opinion of experts that fifty per cent of existing cases of insanity could have been prevented. In addition, the "breakdowns," "collapses," "prostrations," "nervous exhaustions," hysterias, obsessions, and general queernesses that could be prevented among those of us who manage to keep what mind we have fairly well balanced are almost uncountable.

The rearing and discipline of offspring give mental hygiene its golden opportunity. The school will do more than the home, or any other agency, because school is the one spot on earth where the highest level of adult intelligence is concentrated on the problem of growing souls. The time will come when the school, beginning with a study of the hereditary sources of each child's nature, will follow through with its character culture until it points every individual to his proper place in society.

White tells of a negro who ran amuck, broke into several houses and killed a woman. He was convicted of murder. Investigation showed that he had been impulsive and irresponsible from early youth, began early the use of drinks and drugs, and had served many sentences for both minor and major offenses. "No really intelligent plan had ever been brought to bear upon the problem presented."[2] The school

[1] Edward J. Kempf — *The Autonomic Functions and the Personality*, p. 87.

[2] See W. A. White — *Childhood: The Golden Period for Mental Hygiene*, published by the National Committee for Mental Hygiene, New York City.

and its related forces form the best means for following every child, normal and abnormal, from infancy to independence. The time is at hand when we will no more permit such unfortunates to escape into society than we will permit mad dogs to roam our streets.

Maintaining proper social and political relations requires mental hygiene with a Mount Pisgah vision. The world, considered as a whole, is sometimes a crazy world, suffering from "conflict" and a divided personality, as the World War showed us.

The miscellaneous activities of leisure may only mean further torment to one who is suffering mentally. Health is wealth; but the very exuberance of bodily health may be a curse without proper mental control. All health that is not ultimately mental health is no health at all.

To convince us further of the practical need for mental hygiene, let us look at a few figures.

> Over 72,000 men were rejected for mental and nervous diseases from the draft army. . . . Before effective methods of prevention and early treatment had been devised, ten per cent of the soldiers evacuated during battle were found to be disabled not by wounds but by hysteria and other functional nervous disorders. To-day one in three of all the disabled ex-service men in hospitals in the United States is a neuropsychiatric patient. . . . Patients in mental hospitals almost equal those in all other hospitals combined. In several States one out of twenty of all people who die in adult life dies in a hospital for the insane. From one-sixth to one-third of every State's expenditures is for the support of mental hospitals. There are more mental patients in the public institutions of the country than there are students in its colleges and universities. Suicide, which a recent study in Massachusetts has shown is due in 58 per cent of cases to well-defined mental or nervous disorders, is increasing throughout the country and was responsible in 1919 for more deaths than scarlet fever, malaria, and measles together. Mental deficiency (feeble-mindedness) makes it impossible for approximately two per cent of the school population to carry on the work of even the lower grades, and to care for only a minority of those who need such provision requires 40,000 beds in public institutions. Feeble minds

are responsible for nearly a third of crime, for much minor delinquency and for the continued existence of many other pressing social problems. Functional nervous disorders — those lying between mental and physical diseases — prevail in peace to quite as great an extent as they did in war.[1]

The beginning of the mental hygiene movement. — The story in outline of Mr. Beers's experience has been given. As has already been stated, while he was still a patient in a hospital for the insane, he received what then seemed to him to be a divine call to alleviate the condition of all the suffering insane. Following his gleam, he published in 1908 *A Mind That Found Itself* and also conceived the idea of a National Committee, the purpose of which should be "the spreading of a common-sense gospel of right thinking in order to bring about right living." This new movement brought into use in this country the term "mental hygiene." [2]

The National Committee for Mental Hygiene, organized in 1909, has worked along three lines, chiefly, which we may designate as information, education, and organization. It has made itself such a triple headquarters that all who are interested in mental hygiene from any of these standpoints will do well to seek its store of information, its methods of educating, and its plans for organizing. State committees have been formed, legislatures have been led to enact more adequate laws, and an increasing number of educational institutions are offering courses in mental hygiene. There has also been projected an international movement for mental health.

[1] From *Mental Hygiene: The Practical Aims of a Movement to Conserve Mental Health*, issued by the National Committee for Mental Hygiene, New York City.

[2] It is interesting to note that in 1906 there was published in England a valuable book by Dr. T. S. Clouston, entitled *The Hygiene of Mind*, in which the phrase "Mental Hygiene" is used repeatedly. Dr. August Forel, of the University of Zurich, wrote his *Hygiene of Nerves and Mind in Health and Disease* in 1903.

With increasing information and opportunity, the purpose of the movement has broadened. A former president of the National Committee has described the campaign for mental hygiene as

> a continuous effort directed toward conserving and improving the minds of the people . . . a systematic attempt to secure human brains so naturally endowed and so nurtured that people will feel better, think better, and act better than they do now.[1]

With such an object, teachers find themselves in enthusiastic accord.

Mental hygiene and the teacher. — The first great service that mental hygiene will perform for the teacher is to keep her mind focused on what is essential in education, both in her own and in that of her pupils. On the question as to whether a teacher shall be permitted to whip a child, we have wasted enough paper and printer's ink to make Benjamin Franklin weep. Whether a child is whipped is not nearly so critical a matter as his mental condition either with a whipping or without one. It is much more important for parents to learn not to provoke their children to wrath, and to give them sleep enough, than it is for teachers to learn to spare the rod.

> The stimulation of contact receptors, such as skin and muscles, causes comparatively brief, rapid discharges of nervous energy, for the contact receptors have no control over such organs as the thyroid and the adrenals. It is the distance receptors, such as eye and ear, that set off prolonged and exhausting expenditures of energy. Experimentation shows that no amount of mere physical injury to an animal causes hyper-thyroidism or an increase of adrenalin in the blood, whereas fear or rage does both.[2]

[1] See *The First Ten Years of the National Committee for Mental Hygiene, with Some Comments on Its Future*, by Dr. Lewellys F. Barker; published by the National Committee for Mental Hygiene, New York City.

[2] See Dr. George W. Crile's *Origin and Nature of the Emotions*, p. 133.

Now, what is essential in education?[1] The intuition of those who have been taught has sensed it. They appreciate most those of their former teachers who aroused in them ideals and ambitions; who inspired self-confidence and gave direction with sympathy, confidence, understanding, with special help and kindly advice; and who themselves possessed vigor, independence, stability, and poise of character.

As one writer has put it, the former philosophy of education was that "He who knows, will do," based on the belief that if we stock the child's mind with facts, figures, and ideas, he will go out into the world and achieve; whereas our greatest teachers have always held the opposite philosophy, that "He who wills to do, shall know." [2] Put purpose first, with self-assurance and the will to achieve, and the little crusader will find the necessary facts as he does his other building materials. Here is the highroad to the most valuable kind of practice in self-management and self-adjustment, the two arts in which, if one is to pass as truly educated, he must prove himself master.

Individuality emphasized. — Emphasizing individuality is by no means new to teachers, for we have all heard "individual attention" harped upon and have often wished that those in authority would reduce our classes to a size that makes individual attention possible. But mental hygiene brings out what will be to many a new phase of individual development, a phase which is picturesquely suggested in Professor Dolbear's account of "An Antediluvian School."

[1] In this connection, see Dr. Stewart Paton's excellent monograph, *The Essentials of an Education*, published by the National Committee for Mental Hygiene.

[2] See *Cornell Rural School Leaflet*, Vol. XII, No. 1, p. 253.

In antediluvian times, while the animal kingdom was being differentiated into swimmers, climbers, runners, and fliers, there was a school for the development of the animals.

The theory of the school was that the best animals should be able to do one thing as well as another.

If an animal had short legs and good wings, attention should be devoted to running, so as to even up the qualities as far as possible.

So the duck was kept waddling instead of swimming. The pelican was kept wagging his short wings in the attempt to fly. The eagle was made to run, and allowed to fly only for recreation.

All this in the name of education. Nature was not to be trusted, for individuals should be symmetrically developed and similar, for their own welfare as well as for the welfare of the community.

The animals that would not submit to such training, but persisted in developing the best gifts they had, were dishonored and humiliated in many ways. They were stigmatized as being narrow-minded and specialists, and special difficulties were placed in their way when they attempted to ignore the theory of education recognized in the school.

No one was allowed to graduate from the school unless he could climb, swim, run, and fly at certain prescribed rates; so it happened that the time wasted by the duck in the attempt to run had so hindered him from swimming that his swimming muscles had atrophied, and so he was hardly able to swim at all; and in addition he had been scolded, punished, and ill-treated in many ways so as to make his life a burden. He left school humiliated, and the ornithorhynchus could beat him both running and swimming. Indeed, the latter was awarded a prize in two departments.

The eagle could make no headway in climbing to the top of a tree, and although he showed he could get there just the same, the performance was counted a demerit, since it had not been done in the prescribed way.

An abnormal eel with large pectoral fins proved he could run, swim, climb trees, and fly a little. He was made valedictorian.[1]

Chief problems of mental hygiene. — The chief problems of mental hygiene, as here treated, are four in number, as shown below, and each has a positive and a negative aspect, as indicated. The outline, it is hoped, will prove self-explanatory.

[1] From "Antediluvian Education," by Amos E. Dolbear. *Journal of Education*, Vol. 68, p. 424. Quoted in *Success and Failure as Conditions of Mental Health*, by William H. Burnham, published by the National Committee for Mental Hygiene.

I. General
   1. What are the general conditions underlying mental health?
   2. What are the chief causes of mental illness?

II. Genetic
   1. How can we get children better born?
   2. How can we avoid bad inheritance and its evils?

III. Personal
   1. How can we satisfy our natural desires?
   2. How should we meet the shocks of life?

IV. Juvenile
   1. How shall we discover and develop the good traits of children?
   2. How shall we educate out the bad traits?

To each of these larger divisions a part of this book will be devoted.

CLASS EXERCISE

Let each present a case in which mental hygiene is needed, reported, perhaps, from personal knowledge or from periodicals, including the newspaper. Fiction of the more classic kind is suggestive. *Silas Marner*, for example, not only presents a case of illness of character, but shows the cause of the diseased personality and what cured it.

Discuss these cases, laying emphasis, perhaps, on differences in inheritance and differences in personal constitution, variety and strength of causes of maladjustment, how such mental illness could possibly be avoided or cured, perhaps by proper education in childhood, and what causes seem sufficiently common to demand attention from society.

FOR FURTHER STUDY

1. What conclusions do you draw from the story of the "Antediluvian School"?

2. Report on peculiar cases of conduct among school children, remembered from your own school days or recently observed in the schoolroom.

3. Give instances from everyday life to show the necessity for (*a*) self-management and (*b*) self-adjustment with environment.

4. Give examples of your own, hypothetical perhaps, to show how mental hygiene may contribute to direct self-preservation, indirect self-preservation, the rearing and discipline of offspring, the maintenance of proper social and political relations, and enjoyment of the miscellaneous activities of leisure.

5. Make a list of the traits which seem to you to be characteristic of the healthy, efficient mind.

6. Make a second list of traits which appear to characterize the unhealthy, inefficient mind.

7. Discuss the problem or problems in mental hygiene (see "Chief problems of mental hygiene," page 19) illustrated in each of the following cases:

a. A young lady, on receiving a box of flowers, looked downhearted and exclaimed, "If they had only come from Jack!"

b. Emerson, when he saw his choice books burning, smiled and said, "What a fine blaze they make!"

c. The struggle of the United States toward prohibition.

d. "A foolish son is a heaviness to his mother."

e. A teacher smiling at a nervous and fearful pupil.

f. Taking liver salts to rid one's self of dullness and grouchiness.

g. Praising our little George Washingtons for telling the truth.

h. Tracing the relations between bodily and mental hygiene.

8. Make a list of social factors that influence mental health, such as moving pictures, novels, diseases, crowds and crowd excitement, alcohol, etc.

9. State some of the relations which seem to you to exist between bodily and mental hygiene. What influence do mental health and mental disease have on bodily status?

10. A man who, while attempting to steal jewels from a woman, had shot and killed her husband, declared that "the way to stop

men committing crimes is to remove temptation. A movement should be started to keep women from wearing jewelry and high-priced fur coats."

What do you think of the criminal and of his remedy for crime?

11. Do you think the physical world, the world of nature, is regular in its operations, "subject to law"? Is this true of our bodies? If not, how can the physician cure them? Is it true of our minds? If not, how can mental hygiene do anything for us?

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. Mental processes of the insane. (Beers. Hart.)
2. The proper treatment of the insane. (Beers.)
3. Adjustment of plants, lower animals, and man. (Smith. Wells.)
4. Relation of mental hygiene to education. (Paton. Campbell.)

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GENERAL SOURCES OF INFORMATION

The National Committee for Mental Hygiene, New York City, furnishes much free literature, gives all sorts of information, and can sometimes extend other kinds of aid, such as survey service, lectures, etc.

The American Library Association, Washington, D. C., furnishes leaflets on "What to Read" in various branches of mental hygiene.

The National Research Council, Department of Research Information Service, Washington, D. C. "A clearing-house for information about the natural sciences and their applications in industry, commerce, and education." Especially valuable as a means for securing latest facts concerning "scientific problems, technical processes, laboratory methods, apparatus, researches in progress, publications, bibliographies of special subjects, and of research workers."

United States Public Health Service, Washington, D. C. Bulletins.

CHAPTER II

The Forces That Make Personality

Exercise. — Describe and compare some clear-cut and pronounced personalities, or "animalities," that is, individualities which you are familiar with among the lower animals. (If you are not well acquainted with lower animal life, consult reference works.) For instance, you might describe and compare the bulldog and the shepherd or the poodle. Make a list of the traits, the factors in the corpo-mentality, or body-mind unit of each which cause him to be what he is, which make him different from his neighbor, and which, if changed, would change his individuality.

"By personality," wrote a student, "I mean that intangible, indefinite something which can hardly be described in words." A newspaper man, having said that the scene at a certain fire "baffled description," followed up this statement with several columns of description. Let us emulate his example and try to describe in words this "intangible, indefinite something" called personality.

The "personality" of automobiles and of people. — When one of nonmechanical mind looks at a gasoline motor car, he notices its shining or abraded sides — its complexion, as we might say — takes in its general form, and at once pronounces it a "nice big car," a "flivver," a "puddle jumper," or what not. If he ventures to examine the working parts, he finds a medley that may be tangible enough, but which strikes him as an "indefinite something which can hardly be described in words." Study, however, reveals order and various systems, the two essential for the production of power

being a gasoline system and a sparking or electrical system. The hard-working cylinders, the muscles of the car, must be kept from overheating, hence a cooling system. Running parts must be oiled, hence an oiling system. On and near the instrument board is a *controlling* system, with its accelerators and retarders, by means of which this whole multiplex of machinery is kept unified, integrated for the purpose of locomotion. Let any part fail to perform, or overperform, its function, and the behavior of the car may be altered vitally, thus changing its "personality."

Similarly, we glance at the people about us, notice their complexions, general forms, and behaviors, and classify them vaguely as "nervous," "phlegmatic," and so on. But the physiologist looks more deeply and considers systems. The *digestive* system puts the bodily fuel into condition for consumption; the *circulatory* system carries fuel and oxygen to the whole body colony of cells; the *respiratory* system oxygenates and purifies the blood, the common carrier; the *excretory* system throws off waste matter; the *reproductive*, or *sexual* system, has the duty of passing on the torch of life to offspring; the *muscular* system makes locomotion possible; the *endocrine* system of glands pours its fluids into the blood and so accomplishes a number of mysterious and important things, serving as a system of chemical control; the "instrument board," whereby the whole human multiplex is kept integrated for happy living, is the *nervous* system. Let any of these parts fail to perform, or overperform, its function, and the bodily build, the appearance, the experience, and the behavior of the individual may be altered remarkably, thus changing his personality.

A person is a bio-mental unit. — In the term *bio-mental*, "bio" refers to life; "mental" refers to mind. Now, what

is the relation of the living body to the mind that dwells in it? Here is a point that has made trouble for man ever since that distant date when he began to think about himself. Because we cannot readily serve up mind in pounds and quarts, there is a natural temptation to describe it as "intangible," "imponderable," "indivisible," "unextended," etc., applying to it a string of negatives (mostly erroneous, probably) in the effort to make it just as different as possible from "matter." This leads us to think that mind and body are so different that they can have nothing to do with each other, and must be kept strictly apart in our thinking; whereas common sense tells us that an emotion (mental) may make us ill (bodily), that loss of sleep Sunday night means "blue Monday," and so on.

We find Tansley saying,

> Such a phrase — constantly met with in ordinary writing and speech — as 'a thought flashed through my brain' is quite illegitimate. Thoughts belong to the mind, not to the brain, by whatever changes in brain cells they may be accompanied.

And a little later he remarks,

> It is obvious, of course, that the mind is not extended in space, and the use of such constructions may be held to be illegitimate.[1]

But who shall be judge of all these illegitimacies? The legitimate view, as I see it, is that *experience* and *a certain kind of brain process* are one and the same thing, named and considered subjectively in the first place, objectively in the second. If any one objects that this view appears to destroy our hope of immortality, since mind would perish with brain, I reply that the same process may be set up under many different conditions and in various substances, as electricity

[1] *The New Psychology*, pages 17, 21.

is found in many different mechanisms and kinds of "matter," and any one tune may be played on many different instruments.

The mischief of putting asunder these two which common sense has joined together is that after such a divorce proceeding we never get them harmoniously together again. Consequently, we have one group of extremists who make body everything and mind nothing. For them, the body is a magnificent machine, self-running, and mind is simply so much "shadow," "echo," present but powerless — indeed, one might almost say it is the inevitable but utterly useless rattle of the material bodily machine which, if perfect, would run silently, mindlessly. Body, they think, controls mind fatefully, whereas mind has less power than a respectable ghost.

Over against them is another group of extremists who make mind everything and body nothing. Matter, and hence the material body, do not exist. To find them existing is an error, an illusion, or what the Hindus call *maya*. According to some, perfect mind was led into this error of imperfection by the material senses (which, being of matter, of course do not exist!). For them, Mind should always be capitalized, whereas body sinks to the rôle of the shadow, the echo, the rattle, the error. If you are ill, or think you are, do not use powerless, nonexistent drugs on your error-born nonentity of a body; use thoughts. *Think* well and *be* well.

Driven by a kind of logical desperation, as it appears, in the effort to escape these two extremes, a third group of thinkers has hit upon another solution, that of psychophysical parallelism. The parallelist makes his bow to right and left. Mind and body are both respectable entities, absolutely independent yet absolutely correspondent, point for point,

in all they do. Neither can act as a cause on the other, neither can affect the other in any way; yet whenever my mind thinks "write," the fingers of my body perform the act by "preëstablished harmony." Body and mind run along together like trains on parallel tracks, or like two clocks which are independent but absolutely synchronous, ticking and striking together. Such a view exhibits as useless an expenditure of ingenuity as that of the great philosopher who cut two holes into his room, whereby his dog and his cat respectively might enter. It simplifies nothing, explains nothing; it only complicates matters and gives us more to explain. One hole is enough for both the mental dog and the material cat.

Now, here is one of those notable points where common sense has scored a clean ace over science-of-a-certain-sort, and philosophy-of-a-certain-sort, and even religion-of-a-certain-sort: Body causes mental changes and mind causes bodily changes. A person is a bio-mental unit.

The nervous system is central in the bio-mental organization. — A person is like a country: the many cells of his body are like the parts of that country, including its people. Now, a country has its internal affairs and its external affairs, problems of self-management within and of self-adjustment without. To meet this double responsibility, it must have two systems that extend throughout its entire domain: first, an economic system composed of its roads, business houses, etc., for the distribution of goods, that its people may feed and thrive; second, an intelligence-and-governing system, comprising its telephones, telegraphs, etc., and its "government," which takes cognizance of conditions internal and external, favorable and unfavorable, and then adopts measures accordingly. So thoroughly does a country's government

represent it in the eyes of the world that the acts of its government are usually thought of as the acts of that country. Its personality is largely in its governing system.

An individual also, as we have seen, has his internal and his external affairs, requiring self-management and self-adjustment. Likewise, he has two systems that permeate his entire substance, the circulatory, which enables his cells to feed and thrive; and the nervous, the intelligence-and-governing system, which takes cognizance of conditions internal and external, favorable and unfavorable, and takes measures accordingly. These two systems are as fundamental as the gasoline and sparking systems in the automobile. The acts of the nervous system are in general the acts of the person. Personality lies largely in the nervous system.

Brain is the special organ of mental personality. — Much of the work of a government is administrative routine, flowing through fixed channels, and does not require that there shall be any consciousness of it at the capital at all. But with regard to all more important matters there must be capital consciousness which (1) observes what is going on, (2) keeps accessible a record of past events, (3) imagines what *might* happen if various lines of action were followed, (4) thinks what *will* happen as the result of a certain policy, (5) feels keenly, cherishing ideals and rousing itself to respond to conditions, and (6) acts vigorously to initiate whatever measures are necessary.

In like manner, as common observation shows us, much of the work of the nervous system is channeled routine. Our winking, ordinary walking, breathing, and so on, require no consciousness. But with regard to all more important matters there is "capital consciousness" in the brain, which

(1) *perceives*, takes note of what is going on in and about the body, (2) *remembers*, has accessible a record of past events, (3) *imagines*, forms pictures of what might be, (4) *thinks*, tries things out in the mind before trying them out in action, (5) *feels*, likes and dislikes, being drawn by this and repelled by that, and (6) *acts*, or sets the body into action to make secure life, liberty, and the pursuit of happiness.

Here, then, is a kind of skeleton, outline, or schema of what a complete phreno-mentality (brain-mind) must do (see Figure 2). It must perceive, remember, imagine, think, feel, and set off action. When we know what kind of thing rouses these processes most vigorously, whether food, fine clothes, a sexual mate, money, or what not, and especially what rouses most feeling, we know what kind of mind we are studying. When we find how high in the scale of perceiving, remembering, etc., the individual rises before feeling sets off action, we have some index of *how much* mind is there. Some of the crudest of lower animal minds and some of the weakest of human minds merely perceive, feel, and act, but do not profit much by remembering what happened to them before. Your dog perceives and remembers you, feels happy and leaps upon you, but never imagines how you would look if you grew two feet taller or changed color, or what he would do if you died. Certain revolutionists and libertines, and perhaps some moving-picture actors and other "artists," get so far as to imagine things and then become inflamed and explode into action without thought. Complete brains do not, in important matters, merely perceive-feel-act or remember-feel-act or imagine-feel-act, but think-feel-act.

As one rises in this scale, his feelings become more refined, more complex, more harmonious, and more attached to matters that are vital. To the aspiring mind, pushpin

(a game) is not, as a great Englishman once declared it to be, "as good as poetry."

Of course all these activities of mind are good and worthy in their places. Perfect mental health requires that they all be kept in balance, no one supplanting the rest.

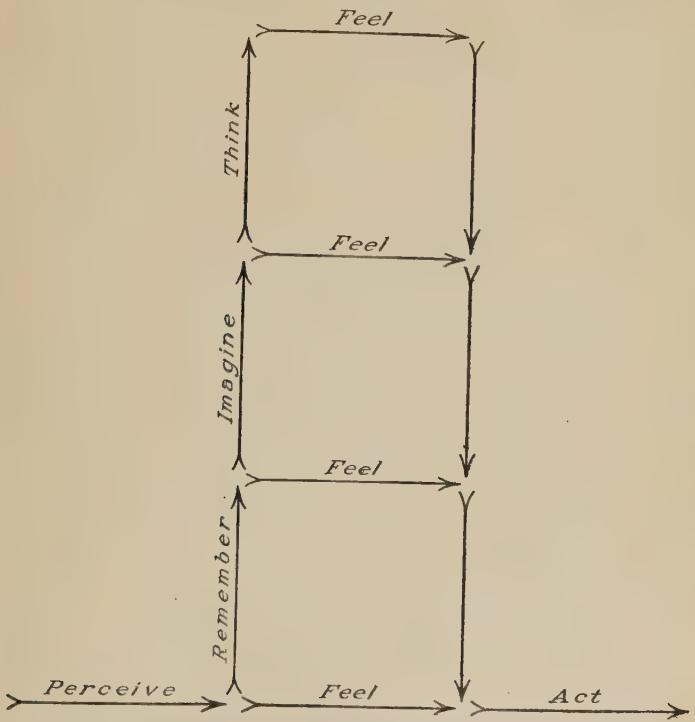


FIG. 2. — Suggesting the relation of the major mental processes.

Brain is the organ of mental personality. Conceivably, one could accept the internal organs of a good healthy calf or sheep in place of his own heart, lungs, liver, and all — if only they would nourish the brain properly and send the right

substances into it. But it is hard to conceive how one's brain could be so changed, without vitally changing *him*.

The stream of transmission. — Nerves carry nervous impulses, often spoken of as nervous "currents" because they run along nerve fibers much as currents of electricity run along wires. In the lowest animals that have nerves, such as the jellyfishes, a nervous impulse, started perhaps by the creature's coming into contact with something, goes pulsing all over its body, thrilling all muscles into action. The current cannot be steered into the brain because Nature could not or did not afford brains when she made these primitive possessors of locomotion. They have only a diffuse nerve net such as is still found in the walls of our intestines and in the heart and blood vessels. If we were like the jellyfish, every thrill we received would spread into every part of the body and set it into action.

In an animal that has a brain, nervous impulses go streaming into that governing organ from all parts of the body, and responsive impulses go streaming out again. And this is true not only when these parts are in action, but when the animal is "holding still" — maintaining a posture. Such nervous impulses are rapid, ranging, for different muscles and under varying conditions, from 40 to 90 per second. This helps us to understand the statement of physical directors that "standing erect is good exercise." It enables us to see, too, how a man can be knocked down by a blow which in actual force is not powerful enough to stagger his 150 or 200 pounds of man flesh off its feet; for there is in the ear an organ of balance or equilibrium which initiates, or at least controls, the nerve impulses that keep the standing muscles in tonus, in postural contraction. Jar his organ of equilibrium thoroughly with a swinging blow on the jaw and your

victim will fall before you " as limp as a rag." A knowledge of action currents will aid also in the study of those mental diseases in which, the mind being reduced well toward zero, the body shows a tendency to remain in any one position in which it may be placed — perhaps with the arm half raised or the back bent.

This flow of nervous impulses into the brain, through the brain by many devious ways, and out again as determined by brain channels, is the stream of transmission. In the study of mental health, this concept of the stream of transmission is of vital importance.

The final common path. — Perhaps the ultimate reason why we can think and do but one thing well at a time is because we live in but one body ; our minds have never become used to managing two or three bodies at once for as many different purposes. At any rate, the practical situation, endlessly repeated, is this (as suggested in Figure 2) : there are many solicitations to act, with only one way for action to issue. You want to spend your money, and you want to keep it, and you can do but one of these, not both. This " one way," in the nervous system, is known as the " final common path " — common because many different impulses compete for it, and many make use of it at different times. How the action issues in any case of competition will depend on which impulse gets possession of the final common path. Getting possession of this is much like getting the attention of an executive, such as a governor or a president. There may be, and often are, many competing influences at work on him ; but out of it all can come but one line of action. In the case of ourselves, there are not only many influences at work outside of us, acting on eyes and ears and other sense organs, but there are also a host of nervous impulses initiated within

the bulk of our bodies through the stimulation of sense organs internally located, in the liver, sexual organs, stomach, lungs, muscles, etc. All of these influences, both from outside the body and inside, may be thought of as competing to get possession of the final common path of motor expression. People who are healthy in body and mind are found responding, most of the time, to things outside of them.

Control of the stream of transmission. — We shall get, I believe, a truthful and practical view of the working of the nervous system if we liken it to an exceedingly complex system of water pipes, with many possible inlets and outlets, valves, faucets, pressure chambers, and so on, all charged, or ready to be charged as required, with water — the water corresponding to nervous energy and impulses. Throughout all that part of the system which is "charged" at any time, there is a certain amount of pressure, or tension, varying according to the inward and outward flow of the currents here and there. Also, there will be, of course, a certain amount of interference among these complex and variously directed streams, the larger and more powerful sweeping the smaller and weaker along with them. And finally, the whole system is "integrated" — set to act as a unit — now for this purpose and then for that, great sections of it being shut off or turned on, with increase or decrease of pressure, according to purpose.

The stream of transmission is controlled by stimuli. Following the physicist, who defines force as anything that tends to produce, change, or stop motion, we may define a stimulus as anything which tends to start, change, or stop the stream of transmission. You buy a new clock, and perhaps its tick so disturbs your stream of transmission that it annoys you for a time; but soon you become so "used to it"

that you can study on "without hearing it." A year later, your friendly clock stops. The *silence* is now a stimulus, for the tick, though unheard, has been supporting a certain tension in your stream of transmission, and the stream, now that this tension is removed, takes a different course. This is the kind of thing we refer to when we wax poetic and speak of "listening to the silence" of a winter woodland. The lover whose "arms embrace an empty space" finds the deficit stimulus tragic.

We shall see that there are many nervous tensions which are like that of the clock tick in being largely unconscious, but unlike it in being decidedly unwholesome in effect. Such are the constant and pernicious nervous tensions and leakages due to adenoids, decayed teeth, imperfect vision, and so on; or to that condition of phreno-mens (brain-mind) which the novelists like to describe as "a longing for I-know-not-what," "an uncertain dread," "a vague yearning," etc. Some of these latter may be growing pains; but some are the marks of a mental condition which could be improved. We should be deeply grateful to him who can tell us what is the matter with us mentally; for, in treating mental troubles, diagnosis often goes far toward cure.

Facilitation, inhibition, integration. — "That deer," said a man to the boy, John Burroughs, "is running as fast as it can; but if you jump out and shout at it as it goes by, it will run still faster." It did. When nervous currents flow together and reënforce each other, the case is one of facilitation. When the neural impulse is interfered with, as by a contrary impulse, the case is one of inhibition. What is the situation in the stock example of the wounded soldier who feels no pain till the battle is over? His stream of transmission, his fighting spirit, is flowing in such a rushing torrent that the pain

impulses which attempt to enter it and reach the final common path of action are as little effective as a rill which, entering a river, attempts to change the course of the great stream.

During the battle, the soldier's nervous system was integrated for fight; that is, his phreno-mens responded to the battle stimuli by opening, full force, all facilitators, such as pride in his company, defiance of the foe's haughty host, and so on; and at the same time it put a quietus on all inhibitors, such as fear and the longing for home. It is integration that is referred to when one speaks of "setting" himself for music, study, or sport; or when the kings of the earth set themselves to put through a certain policy. The healthy and well-disciplined mind sets or integrates itself completely, "whole man on the job," for each successive occupation of the day, permitting no dalliance with tempting but disintegrating stimuli.

The stream of transmission as related to consciousness. — In the depths of the stream of transmission, as we may say, are many currents which do not enter into consciousness, such as those which ordinarily control heart, lungs, and other organs. At a lesser depth are those which form a more or less vague consciousness of self, especially as related to body. Such are the action currents which hold the muscles in posture, and the impulses that determine the tension of the viscera. We are a different "I," when we brace up, from what we are when we sit lopped forward with abdominal and pelvic viscera compressed, and spirits, perhaps, depressed accordingly. Even a child, in order to build up in himself the parent-consciousness or the teacher-consciousness which he wants to understand, will place himself in the posture of parent or teacher and act the part, with warning gesture or with pointer in hand. This gives him the characteristic

posture-and-tension currents and so the fundamentals of the desired consciousness. Uppermost in the brain, the stream of transmission and the "stream of consciousness" appear to become identical, most vigorous at the point on which we are concentrating, the "focus" of consciousness and the "center" of the stream, less vigorous at points nearer the margin.

Mental health means a normal stream of transmission. Mental illness means something gone wrong with the stream of transmission, and ultimately the upper, conscious portion of it.

The brain as the battery of life. — Crile and others studied the brains of humans in fever; animals after long insomnia, after the injection of various toxins and foreign proteins, etc.; brains of animals which had been hard taxed by running, fighting, rage, fear, physical injury, and the injection of strychnine; of electric fish; of salmon at the mouth of the Columbia River and at its head water; of woodchucks in hibernation; of humans who had died from hemorrhage, acidosis, cancer, eclampsia, etc. In every case where there was loss of vitality (power to convert potential into kinetic energy) there were deteriorating physical changes, always the same no matter what the cause, in the brain cells; whereas wherever normal vital power was retained there were no such brain-cell changes discoverable.

To prove that these changes were due to work done by the brain and not to chemical products of metabolism, the circulatory systems of two dogs were crossed so that the circulation of the head of one dog was joined with the circulation of the body of the other, and *vice versa*. Thereupon, injury to the body of a dog caused brain changes in that dog and not in the other. Had these brain changes been due to metabolic processes acting through the blood, they would have been found in the brain of the uninjured dog.[1]

[1] George W. Crile — *Origin and Nature of the Emotions*, p. 182.

Phreno-mental energy and its various names. — Many thinkers have been impressed by the presence, in living things, and especially in humans, of some more or less mysterious vital urge, appetence, or energy. Darwin called it the "will to live." Nietzsche wrote of the "will to power." The French speak of *vital elan*, "vital force," or life enthusiasm. The Hindus called it *tejas*. The term "libido," sometimes used, is unfortunate in its strong suggestion of sexual lust. Professor William McDougall has registered a similar objection to such use of this word, and himself prefers the Greek noun *hormé*, with its adjective "hormic." [1]

It would be interesting if we could begin with the "will" of inanimate things, such as the will of a snowflake to be six-sided and the will of liquified crystalline substances to form crystals; reviewing then the "libido" of sexless creatures like the ameba, the sexually functionless female workers among bees, and the "third sex" among humans. In the lowly animals without nerves, it would seem that the energy of life must be largely chemical, as is also the case in our own muscles and glands. The exact nature of the nervous impulse we do not understand; but the stream of transmission, considered in relation to the forces that support it and the forces that it controls, is the heart of the human personality, call it by what name we will.

How the personality-forces operate. — When we use that much-abused word, "personality," we commonly include, vaguely, some idea of the general effect an individual produces on others by his bodily contour, complexion and facial expressions, clothing, manners, voice, speech, and general behavior. Some of these are comparatively externals, under

[1] For Professor McDougall's discussion of the matter, see page 26 of his *Outline of Abnormal Psychology*.

personal control, and rather expressive of personality than constitutive of it. We shall turn now to view some of those forces which nature commonly controls, but which influence greatly the corpo-mental growth, health, and activity.

We have found that two very important systems, circulatory and nervous, permeate the entire body. We may say that there are two streams of transmission — the nervous, which we have studied, and the blood stream, the chemical stream of transmission. The forces that make us, bodily and mentally, are in general turned into these two streams.

"The blood is the life," says an ancient writing. It is the fluid which transports nutriment, oxygen, waste products, and heat, and carries so close a relation to the corpo-mental life that the blood of starving dogs, injected into that of hungry dogs, makes them hungrier. Blood pressure, also, is not only of general importance, but keeps the brain in best working condition. If the blood pressure of an animal is kept normal, much more injury to its body is required to cause deteriorating brain-cell changes than if the blood pressure is allowed to sink. Great loss of blood may be so injurious that after prolonged hemorrhage there may result a permanent loss of function of some of the brain cells, and the individual never fully regains his former efficiency.

Influence of certain organs on growth, metabolism, etc. — One may grow too much or too little. Giants have been known some eight or nine feet tall, this great growth, especially of the long bones, being produced by a too large and too energetic little gland known as the pituitary body, which lies in a small pocket of bone at the base of the brain. A child whose pituitary body underfunctions may remain deficient in size of bone, with undeveloped sexual organs and a great accumulation of fat. The pituitary is one of those

mysterious glands known as *endocrine*, so called because instead of pouring their secretion outwardly toward the surface of the body, they pour it inwardly into the blood, thus setting into action the hormones, or chemical messengers which, though slower than a nervous " message," may produce very remarkable results. If this pituitary personality only grew mind in proportion to body, there would be some compensation for bearing such a burden.

On the other hand, a child may remain dwarfed in both body and mind through the failure in function of another rather inconspicuous endocrine gland, the thyroid, located rather low in the front part of the neck. From this results the *cretin*, small and repulsive in body and often a total idiot. The condition is remedied by feeding either the thyroid glands of lower animals, or thyroxin, a thyroid " extract," which develops the body in size, the face in comeliness, and the mind to intelligence. (See Figure 3.)

We all live by " burning " — the combining of oxygen with food substances — and the physiological fire is controlled to some extent by the thyroid. If the thyroid refuses to give the body to be burned and turns off the damper, we only lose our abundance of life by thus trying to save it; body and face grow puffy, and there is bodily and mental lethargy. Such a condition occasionally comes upon adults and is known as *myxedema*. It is remedied by the feeding of thyroid, and this feeding must be continued throughout life. The functioning of the thyroid is also necessary to the proper development of the sex glands.

Diabetes occurs when the internal secretion of the pancreas, an organ lying near the upper end of the small intestine, fails to do its duty of taking care of the sugar of the body. The patient is often helped by careful diet and by the

judicious administering of extract of pancreas, known as *insulin*.

When the liver is injured, as by tumor or degeneration, the entire energy of the body is diminished, so that muscular

Fig. 3. — A patient with cretinism before and after the administration of thyroid extract. (Copied from a photograph. Courtesy of D. Appleton and Company.)

and mental weakness results. Gradual loss of efficiency shades into a final state of asthenia (weakness). A sluggish liver means a sluggish mind. The influence of the stomach,

of eupepsia and dyspepsia on metabolism, on circulation, on complexion, on clear or muddle-headedness, etc., is too well known to require comment.

When the sex glands begin to function, they apparently cause the appearance of what are known as secondary sex characteristics. The girl shows marked development of hips and breasts, and the deposition of adipose tissue gives to her figure its curvilinear appearance; whereas the boy takes on or retains angularity, and becomes hairy and deep-voiced.

Another gland, the pineal, retards growth until puberty, when it normally deteriorates and permits the rapid movement of the adolescent to go on unhampered. Disturbance of this gland in childhood may result in premature development of the sex organs, undue skeletal growth, and an undesirable type of precocity.

The influence of certain glands on the regulation of function. — When a male is castrated [1] in early youth, his "maleness" fails to appear. His voice does not change, hair does not grow on his face, and although he may come to great size, he is lacking in manly strength. The capon, or castrated rooster, has no wattles, comb, or spurs, and does not crow. The mental traits of the eunuch "tend to be those of the weakling, lacking in generosity and courage and marked by trickery and intrigue." [2] When the corresponding operation (that of spaying, removing the ovaries, the

[1] This operation consists in removing the testicles, the external, or germ-bearing sex glands, and renders the individual sexually impotent. The Persians often inflicted it on the men and boys of their vanquished enemies; the eunuchs, or attendants of the oriental harem, are thus emasculated; and choir boys were once so treated in order to preserve the soprano quality of their voices.

[2] See article by Walter B. Cannon on "The Control of Bodily Processes by Glands," in *Hygeia*, Vol. I, No. 1.

germ-bearing sex glands) is performed on a female, she does not develop male qualities, but becomes less markedly and perfectly feminine.

The female disease known as *virilism* is caused by overactivity of a portion of the adrenal glands, situated just above the kidney. Cannon tells of a case[1] in which a young woman grew hair on her face and lost her rotundity and became angular, while her breasts diminished in size and her menses ceased. After a tumor had been removed from the adrenals, her beard began to drop out, her form regained its curves, her breasts enlarged again, her menses reappeared, and she later married and bore a child.

FIG. 4. — A "bearded lady." The beard is probably the result of the disordered function of certain glands. (From a photograph by Brown Brothers, New York City.)

Another portion of the adrenal gland secretes adrenalin, a substance which nature seems to use, especially in times of emotional excitement, to integrate the body for violent

[1] *Op. cit.*

action. It stops digestion, sends the blood to heart, muscles, and brain, and causes the bodily reserves to be poured out lavishly as if to meet an emergency. When adrenalin (an extract derived from the adrenal glands of animals) is given in large doses, it excites the brain cells to extreme action, and may even cause the destruction of some of them. If the adrenals are removed, there is a gradual reduction of the powers of both muscle and brain until death results.

The thyroid seems to serve like the accelerator of an automobile, regulating the rate of discharge of energy from the brain, and so from other organs. When it is overactive, as it often is from mental shock, worry, disappointment in love, or other emotional strain, exophthalmic goiter may result — an affection so named because it makes the eyes stand out as if the individual afflicted were in extreme fear.

The parathyroid glands appear to protect the nervous system against oversensitivity and stimulation. Their removal may result in spasms and death.

The " kinetic system." — Crile thinks that the brain, the thyroid, the adrenals, the liver and the muscles should be considered together as the kinetic system of the body, whose function is " the transformation of latent energy into motion and into heat." [1] Three organs in particular seem to bear the stress of life, the brain serving as the " battery," the adrenals as the " oxydizer," and the liver as the " gasoline tank."

> When the kinetic system is driven at an overwhelming rate of speed — as by severe physical injury, by intense emotional excitation, by perforation of the intestines, by the pointing of an abscess into new territory, by the

[1] George W. Crile — *Origin and Nature of the Emotions*, p. 174.

sudden onset of an infectious disease, by an overdose of strychnine, by a Marathon race, by a grilling fight, by foreign proteins, by anaphylaxis [increased susceptibility, as to disease] — the result of these acute overwhelming activations of the kinetic system is clinically designated as shock, and according to the cause is called traumatic shock, toxic shock, anaphylactic shock, drug shock, etc.

If the brain cannot endure the strain, then neurasthenia, nerve exhaustion, or even insanity follows. If the thyroid cannot endure the strain, it undergoes hyperplasia [enlargement due to increase in number of cells], which in turn may result in a colloid goiter or in exophthalmic goiter. If the adrenals cannot endure the strain, cardiovascular disease may develop. If the liver cannot take the strain, then death from acute acidosis may follow; or if the neutralizing effect of the liver is only partially lost, then the acidity may cause Bright's disease. Overactivation of the kinetic system may cause glycosuria and diabetes.

The autonomic system. — Located just in front of the spinal column is a double chain of ganglia which, with its branches, was formerly known as the sympathetic system, but which is now more commonly called the autonomic (self-governing, independent) system. Probably both names are bad. Its function, or at least one important function, is that of integrating the bio-mental forces for various purposes, acting, to accomplish this result, as a kind of gear-shifting device. The lower third of the autonomic system innervates the sexual and other pelvic organs; its middle third activates digestive and other abdominal processes; and its upper third, when suitably stimulated, " turns off " such operations as the sexual and the digestive, shifts the blood supply to brain and muscles, liberates sugar for the muscles to burn, and in general — the adrenals and thyroid coöperating — prepares the person to meet, by combat or otherwise, the threat of direst emergency. It is no wonder we can " lift a ton " when we are angry, or that the maniac, just because he has gone mad, is often so unwontedly powerful.

Temperament. — Temperament is that cast or quality of the bio-mental make-up which results in a typical and usual kind of experience and behavior. Consider the Frenchman, of " nervous " temperament, quick in thought and action, who invented the bayonet, and on the other hand the " phlegmatic " type of individual who dislikes the bayonet because his " phlegm " slows him down to such a point that he can not use that weapon well.

What causes these differences? McDougall [1] has wisely grouped the factors of temperament into two classes: first, those bodily forces which act on the nervous system and influence its action — adrenalin, thyroxin, blood pressure, sexual secretions, the freeing of energy through muscular activity, etc.; second, the nature of the nervous tissue itself, which may cause it to respond flashingly or smolderingly, tremulously or steadily, weakly or strongly. Temperament, then, may be thought of as bio-mental constitution, the balance or resultant of all the forces at work in the corpo-mental self. Consequently, temperament may change somewhat with the change of these forces. Robert Southey, whose feelings, as he says, were like " an ungovernable horse," became, with continued study and the habits of a sedentary life, less emotional, and of what might be termed a purely intellectual temperament.

The study of temperament is, in a practical way, one of intense interest because it helps so much in taking the measure of the people about us, and of ourselves as well. To make it anything like an exact science, however, must be very difficult; for we shall have to hunt down and isolate each of the forces that make personality (a task by no means fully accomplished as yet), measure its power, and ascertain

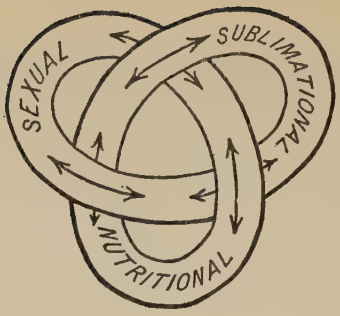
[1] William McDougall — *Introduction to Social Psychology*, p. 116.

its influence when poured into the total stream of such forces. Naturally, students of the subject, instead of attempting such an analysis, for the present impossibly fine, have observed how the personality-making forces group themselves in systems, and have studied them, as we may say, in *bulk*.

Kempf's classification of personalities.[1] — Figure 5 represents the continuous stream of corpo-mental energy " flowing through nutritional, sexual, and sublimational functions of the personality." " Sublimational " means " thoughtful " and " feelingful," or in brief, " mental," the nutritional and sexual energy being " sublimated " — raised to a more purely conscious, higher type. The large diagram represents the balanced personality, "healthy, happy, progressive, constructive, virile," the three systems working in harmony, none exaggerated in function, none dwarfed. The six smaller diagrams show the more striking deviations from the norm.

Kinds of temperament. — One can readily see why there is no classification of temperaments that satisfies everybody. Conceivably, every different organ or fluid in the body might dominate in some personality or other, and if we named temperaments accordingly, we should have not only the sanguine, choleric, melancholic, and phlegmatic temperaments (named by Hippocrates according to the dominance in the body of the blood, yellow bile, black bile, or phlegm), but also an adrenal temperament, a sexual temperament, a thyroid temperament, a muscular temperament, and so on through the pages of the physiology. Even then, these various types could not be sharply separated, but would grade into each other almost imperceptibly.

[1] Edward J. Kempf — *The Autonomic Functions and the Personality*, p. 29.



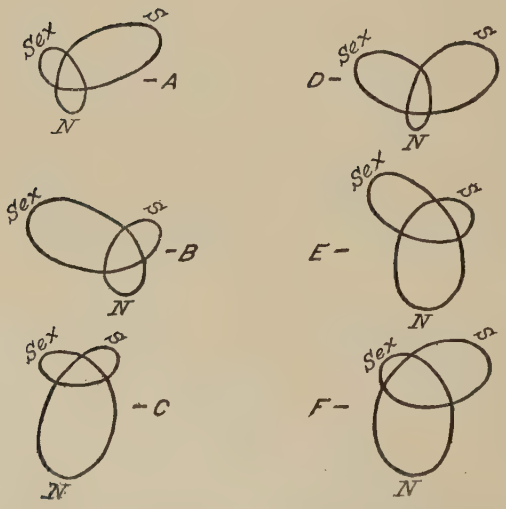


FIG. 5. — To illustrate the balanced personality and the more marked types of deviation from it. (From Edward J. Kempf's *The Autonomic Functions and the Personality*, p. 29. Nervous and Mental Disease Publishing Company.)

The large diagram represents the balanced, normal type. The small diagrams show, as indicated below, the six general types of eccentric deviation from the normal which may occur because of weakness of organs or defect in their functioning:

A = the undernourished, striving, ascetic, paranoid, philosophizing type.
B = the emaciated, auto-erotic, demented — organic and functional type.
C = the fat, gormandizing, demented — organic and functional type.
D = the erotic, inspirational, eccentric maniac type.
E = the pimp, prostitute, and fecundating moron type.
F = the comfortable, ascetic, gormandizing, religious type.

One of the most practically valuable classifications of temperament, in my judgment, is that presented long ago by the phrenologists.[1] They distinguished three major classes, vital, motive, and mental, according to the dominance of (1) the nutritive system, (2) the skeletal-muscular, or action system, or (3) the nervous system. Combination names are then formed, as mental-motive, mental-vital, etc., to indicate combination types, the name of the dominant system being placed first. The " balanced type " is a well-rounded and harmonious combination of all three.

A very good place for the student of temperament to begin his work is among the lower animals. Hornaday, after living among wild animals for years, states that he has recognized among them six temperaments: morose, lymphatic, sanguine, nervous, hysterical, and combative.[2] This is especially suggestive, for it seems to indicate manner of response to stimulus, and hence quality of nervous substance — McDougall's second chief determiner of temperament. The morose (as I infer) prefer not to respond at all, and so react snarlingly and repellently, the lymphatic sluggishly and lazily, the sanguine cheerfully and hopefully, the nervous efficiently but ungraciously, the hysterical explosively, and the combative belligerently. This seems to bring us around the circle to the morose again.

Temperament and mental health. — Hornaday is of the opinion that the morose and hysterical temperaments " operate against mental development, progress, and happiness," and that among humans of equal mental calibre, " the

[1] See, for example, Sizer and Drayton's *Heads and Faces, and How to Study Them*, p. 20. This book was published in 1890, but is still worthy of careful study.

[2] William T. Hornaday — *The Minds and Manners of Wild Animals*, p. 14.

sanguine individual is due to rise higher and go farther than his nervous or lymphatic rivals." Certainly, a knowledge of hygiene should help somewhat, however we are constituted by nature, to steer us away from the morose and combative ends of the temperament scale and toward the optimum.

It is an observation worthy of note also that those who become mentally ill often do so by developing an extreme form of what had been their native temperament, the melancholic sinking into melancholia, the hysterical into hysteria, and so on. But sometimes a frantic effort to " compensate " for some defect due to native constitution or overwhelming experience — that is, to correct it by showing the opposite quality — throws the victim into a state which is the extreme contrast of his former self.

The safe way here, as so often elsewhere, seems to be in the ancient *aurea mediocritas*, the golden mean.

CLASS EXERCISE

Bring forward and discuss all the terms you can discover that are descriptive of temperament, and make a list which is adequate to describe all the temperaments you have distinguished. What are the means by which we can discover what organs or systems of a personality are dominant? For example, great men have, in general, large noses, and hence, very likely, large nostrils, indicating copious breathing and a highly efficient ventilating system. The physiological fire has good draft and burns strongly in them.

Perhaps members of the class will not object to being made subjects for such a study. A visit may be made to schoolrooms, and notes taken to describe temperament and temperamental signs in children.

Offer suggestions as to the kind of régime of mental hygiene most needed by each type of temperament.

FOR FURTHER STUDY

1. How would you regard one who declared that he had set a broken bone by thinking about it? One who claimed to have cured a burn by talking to it? One who believed he had avoided worry by proper direction of thought? What is the difference in these cases?

2. Give instances to show the power of body over mind; of mind over body.

3. Illustrate perception, memory, imagination, thought, feeling. Show how they may be influenced by bodily conditions and processes.

4. Show, with regard to alcohol, sex stimuli, enticing food, etc., how some perceive-feel-act, others perceive-remember-feel-act, etc.

5. Explain, in terms of stimulus and stream of transmission, why you have to speak loudly or sharply to attract the attention of one who is engrossed in reading.

6. Show how the special sense organs, such as the eye and the ear, lying on the outside of the body, help us to adjust ourselves with the environment, while sense organs within the body, such as those whose stimulation rouses hunger and thirst, enable us to adjust the affairs of the "inner man."

7. Give your own examples of facilitation, inhibition, and integration.

8. Imagine a person who is almost wholly a stomach, or a body of muscles, etc. What kind of personality and temperament would he have?

9. Describe the temperament of typical lower animals, as the terrier dog, race horse, draught horse, etc.

10. Compare Kempf's three major influences in the personal make-up with the functions of the three main portions of the autonomic system; with the phrenological list of temperaments.

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. Relation of body and mind. (McDougall, *Body and Mind.*)
2. Relation of the mental and the environmental. (La Rue, *Psychology for Teachers,* Ch. III.)

3. The physiology of mind. (Dercum.)
4. The kinetic system and the personality. (Crile.)
5. The autonomic system and the personality. (Kempf.)
6. Bodily changes as related to fear, anger, etc. (Cannon.)
7. Temperament. (Sizer and Drayton.)
8. Attitude and disposition as related to temperament. (Warren, *Elements of Human Psychology*, Ch. XV.)

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CHAPTER III

The Self as an Ensemble of Phreno-mental Traits

Exercise. — What is your explanation of the following facts?

1. "Buffalo Bill," though not afraid of Indians or wild animals on the prairie, was timid in the presence of ladies.

2. From early childhood, Jenny Lind sang spontaneously and could repeat even intricate airs accurately after having heard them but once. Some children, no matter how well taught, can never sing.

3. Some students who are strong in algebra are also strong in geometry; others are not.

4. Bryant wrote poetry when a boy. George Eliot did not begin writing until she was nearly forty.

5. Robert Fulton, a painter, went to England to study painting. He met a mechanician, gave up painting, and became the inventor of the steamship.

Are there any bodily differences that underlie different mental traits and their expression? If so, where are they?

A person is an ensemble of traits. — As we look at the world of people about us, we wonder how nature can strike out so many original patterns, making practically no doubles. If a person were as simple as a standard drop of pure water, society would be a hopeless confusion of duplicates. The marvel of millions all different is possible because a person is made of many "parts," and each of these parts may be varied.

Obviously the body is made of parts; and writers of a previous period quaintly but quite correctly applied this term mentally, speaking of "a man of parts" to indicate

one of remarkable mental qualities. In more modern phrase, we talk of bodily and mental traits, tallness, shortness, blue eyes, long nose, pride in dress, memory for names, precision in speech, and so on through a very long list. If we add or subtract or change a trait, we increase or diminish or vary the original personality. Now, our *mental* traits are of course the most precious part of us. Bodily traits are comparatively external, and many of them could conceivably be changed while still leaving the deeper " I " unaltered. They do not strike through into the soul of us except as they pour their influence through the phreno-mens. But let some disturbance exaggerate or diminish a mental trait as the cartoonist does a facial one, and the distorted personality, if it could be pictured, might scarcely be recognized.

What is a trait? — A trait is a quality, attribute, or characteristic — the way a thing *is*, or the way it *does* (for *being* and *doing* are in the last analysis one and the same thing).

When we study objects, we speak of their *properties*. Chalk is white; ordinary iron is malleable; oil is inflammable; gas is rare and compressible, while water is much denser and is practically non-compressible. Such properties could correctly be called " traits " of the various objects.

Botany is a study of the traits of some of the lowlier living things, of the appearance and " habits " of plants. To the influences about them they respond in various ways, sometimes in a way that is almost human. The sensitive plant, for example, has the trait of closing up its leaves at the slightest touch, and may be akin, in its humble botanical way, to those extremely sensitive people who can not stand the slightest rub of their environment without cringing away from it.

Some sample traits, human and subhuman. — It will help us to see ourselves as others see us if we look for our traits in others, especially in our subhuman friends. We shall find, too, that the lower animal, like the human animal, usually looks the part he plays — if we but learn how to judge looks.

Wolves are the meanest of all quadrupeds, says Hornaday. The ape excels in cunning; the deer is the " greatest fool "; the beaver shows remarkable traits in the line of domestic economy; the elephant and the chimpanzee take highest intellectual rank. The beaver buries green branches in the mud at the bottom of his pond, so that in the winter he can get them even under thick ice. Elephants do not quarrel, as a rule, but when a rogue develops he is driven out of the herd. The chimpanzee, with his nervous or hysterical temperament, distinguishes himself by learning most, and most easily, under training. As the chimpanzee approaches man most closely in intelligence, so the dog perhaps comes nearest to his master in *feeling*, and is the only animal " that can read a man's feelings from his eyes and his facial expression." [1] Of course, just as there are wide individual variations among the lords of creation, so there are among these humble subjects. It is a question whether they are not more mentally hygienic than man. Certainly, their percentage of insanity runs almost incomparably lower than ours, and under ordinary circumstances probably approaches zero.

The most marked traits of character also run in strains of human blood. The peoples historically associated with northwestern Europe — Normans, Danes, Angles, and Saxons — are probably the most pugnacious brood humanity ever produced. On the other hand, travelers have found in cer-

[1] William T. Hornaday — *Minds and Manners of Wild Animals.*

tain islands of the Torres Straits a people so peaceful that neither man nor boy ever indulges in a fight, though they had quietly consumed the weakly resisting crews of several vessels which were wrecked there; nor could they see any sense in the English games involving rivalry, such as football.

So intricately does heredity weave its web through our multiplex and mongrel human matings, that we often can not depend on the mere study of species, strains, or families, as we might with poodle dogs or Angora cats, but must investigate the individual. Sexual desire is supposed to be a trait common to all, yet, as McDougall says,[1] we can find a number of persons "who know of sexual desire only by hearsay and who regard it as a strange madness from which they are fortunately free." We have only to cast our eyes about to observe excesses and deficiencies in traits of all types, from the trivial to those which constitute bodily or mental deficiency or deformity.

Each mental trait appears to have its corresponding center in the brain. — The term "center" is used here somewhat as we employ the word "center," or "region," in geography, when we speak of a business center or a coal region. It does not imply that nothing else than business or mining can go on in that locality, or that all work of a certain kind is narrowly concentrated into one compactly filled field. Our present knowledge does, however, seem to indicate that every well-marked type of mental process takes place, and takes its place, in a locus of cells which, though they may be scattered about the brain as the connections of a business house may be scattered about the country, form a trait tract for that trait; and that if this trait tract were removed from the brain, the corresponding trait would (in

[1] *Introduction to Social Psychology*, p. 273.

most, if not all cases) irremediably cease to show itself. Take as an example the color center, or centers (for all cerebral centers except one are apparently paired, one member of the pair being placed in each hemisphere). This trait tract is quite definitely located in the occipital lobe, and is the seat of the chief processes of color vision. Remove it, and the owner of that brain would never see color again. Remove also the centers round about it, and he would never even remember or imagine color again.

Final, positive knowledge as to just what entries should appear in the complete catalog of human mental traits, and the precise location of each trait tract in the cerebrum, may be as far in the future as our hoped-for communication with other planets. The biologists have a key (as indicated below) to the outer door of this temple of mystery, and Davenport has constructed *The Trait Book* [1] which marks a promising beginning, at least. Psychology has worked mainly from a different standpoint, busying itself chiefly with those processes, such as perceiving, remembering, etc., in which all parts of the brain seem in some measure to participate — the color center serving in the perceiving of colors, the auditory center in the perceiving of sounds, etc. Psychophysiological experiments on the brain, however, have yielded, with regard to localization of function, some of the most definite and valuable knowledge we possess. Phrenology, proceeding mainly by the method of concentrated study of those individuals who exhibited outstandingly some certain trait, has mapped both mind and brain, traits and trait tracts, with expressions of surety that arouse suspicion, though we must admit that many phrenological findings have been confirmed, and that the system, though

[1] C. B. Davenport — *The Trait Book.*

probably pervaded by a human percentage of error, has in it a working value of considerable dimensions.

Every inherited trait appears to have a basis in the body. — Traits are either inherited or acquired. Whenever the student of heredity finds that any particular inborn quality, such as eye color, can be inherited independently of other qualities and can vary independently of them, he regards that particular quality as a unit character, an inherited trait properly so called, and he confidently expects that it will be found to have a basis somewhere in the bodily structure. When he finds one person strong in biceps or circulation or digestion and another weak in the same point without any unusual condition of environment or training, he concludes that some part of the *body* is born strong or weak correspondingly. Similarly, when we find some mental trait excessive or deficient naturally (that is, without unusual condition of environment or training), we have a reasonable right to conclude that its trait tract (or some related part of body or brain) is born strong or weak; for it appears logical to infer that those parts of the brain which constitute trait tracts are inherited independently of each other. A mind is not a unit, " one or a single thing," in the sense of being made of some kind of stuff and the same stuff throughout, like a body of water; it is an ensemble of various traits and processes, acting together like the numerous notes in a musical composition, harmonious and unified, or ugly, clashing, and unintegrated according to the nature and relation of the notes. Now, the nature and relation of the mental " notes " depends on the parts of the inherited brain instrument. These parts, like those of any other instrument, may be sound at one point, unsound at another.

Traits may vary independently. — That traits may vary independently is already clear from what has preceded; but let us look at one of its implications. We are likely to assume that one who is bright in one thing is bright in everything; if dull, dull in everything; if sane in certain test points, sound all through; and if queer in one trait, built on a wholly queer pattern. *Falsus in uno, falsus in omnibus?* By no means. Not only is there honor among thieves, but a thief may be honorable in every spot except the one weak spot. Seldom is your physical invalid very weak in every organ, or he with a valid and clean bill of health extremely strong in all. The brain appears to be built on the same plan, its numerous centers being independently heritable and independently variable, with traits varying accordingly. We find mental weaklings who still have their strong points, and other individuals whose minds, though powerful in many directions, are in others pitiably weak.

Centers develop at different ages. — When an alarm clock goes off at six in the morning, it does not surprise us that its spring could stay pent all night and then suddenly break into action; it was *set* to do that. Also, we are not surprised when the young rooster throws out decorative plumage and a comb and begins to crow. This simple fact should remind us that there is a biological set for traits as well as a physical set for alarm clocks. Both spring into action when the time is ripe. Why should we be surprised, then, if a girl goes through a period of noticeable vanity and then develops common sense, or if the Big Injun type of boy transforms rather rapidly, at the proper point, into a fairly civilized citizen? Nor should we blame the environment if our promising youth of poor inheritance shows change and mental decay in an unchanging and wholesome environment; there

is a "set," alas, in some families, for the appearance of insane traits as well as of sane ones.

Here, too, is great individual variation. For example, we expect the pairing instinct to be fairly constant in its time of ripening; yet Dante is said to have fallen in love with Beatrice when he was but nine years old. Or consider the ability and tendency to write. Motley began a novel at eleven, an age at which most boys have not learned to read a novel well. Nature ripens brain centers as she does apples, some early, some late.

Centers, when ready to discharge, push for expression. — Every phreno-mental center, when roused to action, may be thought of as pouring its currents into the stream of transmission, changing the stream to that extent, and perhaps dominating it. If possible, this trait energy will discharge itself directly and consciously, as when the lover of music lets it sway him, to the exclusion of all other desires.

But what becomes of these other desires? Once roused, they flow toward expression in some form. In the *Inferno*, Dante pictures Calcabrina, a tormenting demon, flying after Ciampolo, who plunges and escapes. Then Calcabrina flew

> After him, with desire of strife inflamed;
> And, for the barterer had 'scaped, so turn'd
> His talons on his comrade.

Roused for a fight, he must do battle with some one, even a comrade. If balked in direct discharge, the phreno-mental energy seeks indirect expression. Some children whose new Christmas dolls were monopolized by the adults of the household were found playing with sticks and bunches of string as dolls. Such incidents are often quoted as beautiful instances of imagination. In a measure, they are; but primarily they show the phreno-mental trait energy seeking its own as far

as possible under the circumstances. It is said that Saint Francis of Assisi went barefoot from his cell into the deep snow one night, knelt, wept, and prayed. He then made one large mound of snow, and near it several little ones, representing the wife and children who could never be his.

Sometimes these desires that are thwarted — thwarted perhaps because their true nature is not fully recognized — find expression in such forms that even their owner does not realize their true source and their meaning.[1] Miller tells of a boy of fourteen, the only child of a widow who had led him to regard himself as the most wonderful boy on earth. He stayed at home till he was fourteen and then went to a boarding-school, where he found himself lowest in everything, whether in the classroom or on the playground. Yet he alienated sympathy by his smile of " bland and imperturbable superiority." He wrote a letter in which he told of a friend (quite evidently himself) who expected to be the most wonderful man on earth — immortal, in fact. He was to have magic elevators which would lift him through the back door of heaven, would enjoy a new and perfect immortal body, suited to various climates and controlled by electricity, so that he could make himself invisible, fly through the air, and give " the most colossal kick known." He would know all things knowable, have a heaven-born brother, a motor-car that could speak, and all the money he wanted. No human being would be allowed to enter heaven during his lifetime; but he would run the elevator, count the proceeds

[1] Much has been written of the "subconscious," or "unconscious," motive. The author is inclined to agree with what he understands to be the view of R. S. Woodworth (*Psychology: A Study of Mental Life*, Ch. XXI), that much of what is called "unconscious" is rather *unrecognized* — not observed and understood by the subject.

and take them to the bank, and retire at pleasure to his "motor-car bed." [1]

The brain as a community of centers. — For our present purpose, the brain should be thought of, not as a single organ, but as a collection — an ensemble — of many organs. In the healthy personality, these many organs work, in their larger activities at least, harmoniously. In those less fortunately constituted, their inharmonious, conflicting discharges of energy are very likely the cause of many a case of mental illness.

We shall often have occasion to liken the community of brain centers to a community of people, a town, a state, a nation, a world. Some people and centers are powerful and influential, "leading citizens" of the community, while others are less assertive and tend to fall in line with the general trend of things. The interplay of the trait forces within the brain community, their varying dominance and submergence in the stream of transmission, and their expression in outward act — all this constitutes the very core of personality.

We have already had a glimpse of this in our study of facilitation and inhibition. An old lady who was recovering from a broken leg became possessed by the idea that she would never be able to use the limb again. She walked with the aid of an assistant, though her physician knew that she could walk alone. He got her to go with him to the middle of the floor, where he left her. She stood there for some time, crying and lamenting, but at last became so angry that in spite of her affliction she walked back to her chair. She had learned her lesson, and so well that she always walked thereafter without hesitation. Anger

[1] H. Crichton Miller — *The New Psychology and the Teacher*, p. 50.

had evidently facilitated the currents from her ambulatory centers.

Toussaint L'Ouverture, when still a slave, refused to join the other blacks who were engaging in an uprising in Hayti until he could help a certain white man, M. Bayou, with his family, to escape to Baltimore. Bayou had given him the rudiments of an education. Gratitude temporarily inhibited the intense currents of patriotism.

The leading traits, like leading citizens, serve as centers of organization for others. A certain schoolboy was discovered to be behind in his classes because low in his mental age. His conduct was very unsatisfactory. But he was found to have talent for drawing and music, and when given a chance at these, became "a new boy." Sometimes a center dominates at certain periods only. A wild gander which had mated with a domestic goose and seemed to have "settled down" became so uneasy at migrating time that, although his wings were clipped, he persuaded his mate to start south with him on foot. After covering eighteen miles, they gave up the trip and joined another domestic flock.

If two opposing traits are so nearly equal that one can not easily inhibit the other, and especially if they are powerful enough to serve as centers of organization, "conflict" ensues. The personality is divided, and there results a condition which, in a state or nation, takes the form of civil war, with possible disruption and self-destruction. A good woman who was besought by her husband to prostitute herself to base purposes in order to increase the family income, suffered conflict between her devotion to her husband and her desire to maintain upright womanhood. During the insanity that ensued, she declared that she was Christ and that her husband was the devil.

The upper brain centers should integrate the personality. — Children and subhuman creatures are impulsive and devious in their doings. Their line of conduct, from day to day, is often inconsistent, contradictory, disunified, unintegrated, due to the fact that their upper brain centers are either wanting or unripe. The phreno-mental centers, as they develop one by one, are somewhat like a number of more or less civilized communities without a central government. Later, nature tops off the whole with a group of integrating centers which bring about a kind of *e pluribus unum* unity, preventing any center from running away with the personality or any from being submerged, and giving to the whole a coöperative, dominant purpose. We speak of this period as the time "when a man finds himself."

It is imaginative, but suggestive of the truth of the situation, to think of the lower trait centers as setting forth in a preamble the reasons why they wish to establish a mental "constitution":

> We, the phreno-mental trait centers of the brain of John Smith, in order to form a more perfect union, establish justice among us, insure domestic tranquillity (within the personality), provide for the common defense, promote the general welfare, and secure as much liberty for each of us as is consistent therewith, do ordain and establish the integrative centers to guide us with scholarly wisdom and saintly love into the ways of goodness.

Those parts of our corpo-mentality which have evolved last are likely to be least resistive, and consequently to give way first under the strain of age, fatigue, poisons, or other extreme tests. We shall find this to be unfortunately true of the integrative centers. As they appear to be the seat of our high personal consciousness — a consciousness so high that the lower animal does not have it — their failure to

function means that the individual " can not hold himself (or pull himself) together," can not maintain self-mastery, is " not himself," " feels like somebody else," etc. Speaking from our present standpoint, education means integration, and one who is not efficiently integrated is not educated.

Racial and special traits. — If we tried to list the " traits " of a state and make them correspond nicely with its physical and social centers, we should have an onerous and complex task. Pennsylvania, for example, has coal-mining centers and qualities, agricultural centers and characteristics, Quaker centers and traits, etc. But to record all her traits and her centers in perfect one-to-one correspondence — that is no easy matter. Still more difficult is it to construct such a personality map for any individual, whose trait tracts lie hidden among millions of brain cells, and whose traits may lie unrevealed except as they come out through conduct and conversation.

We can, however, make a general survey of human traits that ought to give very potent insight and a great weight of help. Our first procedure is to divide them into two classes, *racial* and *special*. Deep in the geological structure of all countries are certain strata which form a common basis and foundation, whereas their more special characteristics, their soils and landscapes, are laid on above. So also, deep in the brain structure of practically all humans lie certain common " strata," those general phreno-mental qualities which we refer to when we aver that " human nature is much the same everywhere," such traits as self-assertion, fear, and comradeship. These qualities are racial. Laid on above them are the particular characteristics which distinguish us as individuals, such as fondness for mathematics, art, or athletics — our special, individual, personal traits.

Instincts and affects.[1] — An instinct is an old racial trait of perceiving-feeling-acting. If any creature is to survive and play its part in helping its species to survive, it must be set and ready to perceive-feel-act without hesitation in the presence of various objects and living things which mean much to individual and racial welfare, such as food, shelter, enemies, and possible sexual mates. It must feel fear, and flee from that which is dangerous and can not be overcome; courage to fight when fighting avails to win what is wanted; hearty lust for sexual union with the most fit mate; and social emotion which leads it to coöperate with its kind, that it may not perish in a lone fight or remain mateless and leave no offspring. However difficult it may be to explain how nature could build into the racial brain that finer-than-watchwork nervous machinery which must lie at birth in the instinctive trait tracts, it is perfectly easy to see what must have happened to the myriads of living things which were lacking in some fundamental trait, or had some competitive center too weak to permit them to win a place in strife against the tusks and talons, the brawn and brain of their rivals. They were weighed in the balance and found wanting; the kingdom was given to others; their kind could not continue.

McDougall, who has given us the clearest elucidation of instinct, states that the one portion of it which "persists throughout life as the essential unchanging nucleus" is the affective part. The objects which excite the affect may

[1] The word "affect," as here used, is accented on the first syllable, and denotes, in a general way, a feeling. The affects include not only the simpler feelings (sense-feelings, etc., such as pleasure at sight of a color) but also emotions, such as fear; moods, such as "the blues"; and sentiments, such as love of truth. The affect associated most prominently with instinct is emotion. Morton Prince in *The Unconscious* employs the term "emotion-instinct."

change, and the resulting behavior may change; but fear remains fear, anger is still anger, and wonder travels from object to object to the end of life. The great importance attached to the instincts, and especially to the affective core of them, may be inferred from his statement that if they were taken away, the organism would be incapable of activity of any kind, lying like a clockwork without a mainspring, or a steam engine without a fire. They are the phreno-mental forces that either make or wreck personality, and so must occupy, in mental hygiene, a position of central importance.

McDougall's list of instincts and corresponding primary emotions. — According to McDougall, each principal instinct "conditions" a certain emotion that is peculiar to it, and which may be regarded as primary, basic. *On* these and *of* these primary emotions, the more complex affects are built up. The tests as to whether an emotion is primary are first, whether it is found in the higher animals; and second, whether it ever appears in mentally ill human beings in a form abnormally and independently exaggerated.

> If [says McDougall] we review the instincts of the human species and the emotional excitements that accompany the operation of the several instincts, we notice a close correspondence between the complexity and specificity of the bodily adjustments which constitute the whole of each instinctive reaction and the distinctness or specificity of quality of these emotional excitements. We may arrange the instincts in a scale, in the descending order of complexity of bodily adjustments; and we find that the corresponding qualities of emotional excitement then form a scale of diminishing degrees of specificity.

This scale of instincts and their corresponding emotional qualities appears on page 68.[1]

[1] The list here presented is in the revised form published by McDougall in his *Outline of Psychology* (1924), p. 324. His original list is found in Chapter III of his *Introduction to Social Psychology*.

Names of Instincts (Synonyms in Parentheses)	*Names of Emotional Qualities Accompanying the Instinctive Activities*
1. Instinct of escape (of self-preservation, of avoidance, danger instinct)	Fear (terror, fright, alarm, trepidation).
2. Instinct of combat (aggression, pugnacity)	Anger (rage, fury, annoyance, irritation, displeasure).
3. Repulsion (repugnance)	Disgust (nausea, loathing, repugnance).
4. Parental (protective)	Tender emotion (love, tenderness, tender feeling).
5. Appeal	Distress (feeling of helplessness).
6. Pairing (mating, reproduction, sexual)	Lust (sexual emotion or excitement, sometimes called love — an unfortunate and confusing usage).
7. Curiosity (inquiry, discovery, investigation)	Curiosity (feeling of mystery, of strangeness, of the unknown, wonder).
8. Submission (self-abasement)	Feeling of subjection (of inferiority, of devotion, of humility, of attachment, of submission, negative self-feeling).
9. Assertion (self-display)	Elation (feeling of superiority, of masterfulness, of pride, of domination, positive self-feeling).
10. Social or gregarious instinct	Feeling of loneliness, of isolation, nostalgia.
11. Food-seeking (hunting)	Appetite or craving in narrower sense (gusto).
12. Acquisition (hoarding instinct)	Feeling of ownership, of possession (protective feeling).
13. Construction	Feeling of creativeness, of making, of productivity.
14. Laughter.	Amusement (jollity, carelessness, relaxation).

Individual traits. — The chief instinctive urges and appetences, so common as to thrill and move all, or nearly all, of humanity, have now been passed in review. But there

are many personal traits which, in the individual life, are often powerful, problematic, and in their struggle toward expression, triumphal or tragic.

We sometimes hear it said of some one that he seems to have an " instinct " for geometry, or the violin, or color mixing, or what not. Although such a use of the word " instinct " is not sanctioned in psychology, he who speaks in this way very likely has the correct idea, which is that of a highly efficient phreno-mental center, personal, not racial, acting on that kind of object for which it is especially adapted by inheritance.[1]

William Murdock, inventor of gas lighting, was so naturally mechanical that he turned out for himself, on his father's lathe, a wooden hat. Tycho Brahe was greatly attracted by an eclipse when he was fourteen, and decided to devote himself to the study of astronomy. Isaac Newton was a frail boy, and received his first impulse to study through being kicked at school by a boy in a higher class. He resolved to pass that boy. Louis Pasteur always had a passion for keeping things free from dirt. John Burroughs, standing alone on the top of a lofty mountain, viewing the world by moonlight and listening to the song of the hermit thrush, declared the pomp of cities and the pride of civilization to be " trivial and cheap." Such individual traits may be as powerful as instincts, or may even, in some measure, displace instincts.

Phreno-mental traits and mental health. — The idea of the self as an ensemble of phreno-mental traits is, it would seem, fundamental to an understanding of the true nature of mental health and mental illness. When an organ of the body seriously underfunctions or overfunctions, we suffer

[1] We need a new word to designate precisely this kind of trait.

bodily illness. Similarly, when a trait-center in the brain seriously underfunctions or overfunctions, we suffer mental illness. The harmonious functioning of the organs of the body or the parts of the brain is often spoken of as "unification," "balance," or "integration." When one is sufficiently integrated mentally to enable him to adjust himself fairly successfully with his physical and social environment, he is healthy-minded.

If we leave the matter at this point, however, there is danger that the vagueness of the concept will interfere with its usefulness. If a watchmaker or an automobile mechanic tells us that the reason why our watch or car does not run well is because it is "unintegrated," or "dissociated," or has a "conflict" somewhere in its works, we are not likely to feel that he has told us much which we could not have told him. We want to know just what is wrong, what caused the trouble, whether it can be fixed, and how to avoid it hereafter.

Further, one can be integrated in various ways for different purposes, for farming, for business, for teaching, for married life or single, for leading or following; and he who is healthy-minded in one of these positions or conditions might not be in another. Writers on education and on mental hygiene sometimes seem to insist on the ideal of complete adjustment to life in all its aspects. If this means active participation in all phases of life, then no such ideal is realizable; for many children lack some of the traits necessary to make all-round participation possible. Society must be built, not like a wall with bricks all shaped on the same pattern, but like a wall of rough stones, of varied shape, all different, yet all fitted together.

Our ideal for each child should be to find out what good

traits are strongest in him by inheritance, and to integrate his personality around these.

CLASS EXERCISES

SUGGESTED STUDIES OF INDIVIDUAL TRAITS

1. Each may contribute an instance of a marked personal trait, as love of the sea, love of home, business ability, pride in personal appearance, laziness, or special ability in some branch of study. An instinct, if present in excessive strength or peculiar form, as the "instinct of acquisition" is thought by some to show itself in kleptomania, should be regarded as an individual trait. Whenever possible, trace the trait through the family line, and show also what environmental influences served to develop it. Discussion should follow the contributions.

2. The class may study the individual traits of its members. Let each report, preferably on paper, his favorite study, his favorite game or sport, and such other matters as teacher and class may wish to include, such as aversion to or desire for the company of a group, chief hobby, etc. Quick tabulation will show some of the outstanding traits of the group. Discussion may reveal ancestral sources and other related facts of interest and value.

FOR FURTHER STUDY

1. Why can some animals be domesticated readily, while others die under our attempts to domesticate them?

2. McDougall thinks that concealment, accompanying the emotion of fear, is as instinctive as flight. Concealment naturally involves holding still, and hence the almost paralyzed state into which fear may throw one. Can you give any examples to illustrate this?

3. When the feeding of thyroid changes a cretinous idiot to an intelligent child, does the thyroxin create new centers in the brain, or develop those which were already there potentially? Do you think it would be possible to feed all dull children something that would make them bright? Could the lower animals be raised to human intelligence by this method?

4. Give your own illustrations of the principal instincts and primary emotions as listed by McDougall.

5. Give, from your own observation or hypothetically, an example of the conflict of traits.

6. Do you think there is a special sleep center in the brain? Is there any need for one? Why or why not? Is it likely that all conscious centers sleep?

7. There are people, formerly able to talk, who can recall the feelings of words as they are spoken, and who have, in fact, all the antecedents of speech, but still can not speak. In such cases, lesions are found in the brain fibers leading to the speaking muscles. Can you offer any explanation as to why other fibers can not be used, so as to run the nerve current around the lesion?

Do such cases throw any light on the situation in which a pupil says he "knows but can not tell"? How would it do to let such a pupil hear some one else "tell," and then try it himself?

8. Hornaday says that the guanaco has a placid countenance, gazelle-like eyes, and a soft, woolly fleece suggestive of softness of disposition; yet it is quarrelsome and sometimes intractable. What warning does this give us with regard to reading off inner disposition from outer appearances? Do you think this warning holds of human beings, or is the human form, the face especially, shaped more strictly according to phreno-mental inheritance and experience?

9. It is said that a man who has an automobile will always find a reason, good or poor, why he should ride to work and elsewhere. What does this show with regard to the influence of desire on the stream of transmission?

10. One who has been converted to some form of religious belief may tell you, either that he no longer is tempted to commit the old sins, or that he is tempted somewhat as before but finds himself enabled to overcome the temptation. What do these statements indicate with regard to the influence of the higher brain centers on the lower?

11. When Clifford W. Beers was an inmate of a certain hospital for the insane, he thought he was being tempted to eat so as to in-

duce him to betray himself in some way in order that evidence might be secured against him. Yet when ice cream was placed before him, he was so attracted by his favorite food that he "no longer cared a whit for charges or convictions of all the crimes on the calendar." What light does this throw on the behavior of trait centers, especially when the upper, integrative centers are out of function? What light as to the advisability of tactful treatment of the insane?

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. A complete list of human traits. (Davenport.)
2. The human instincts. (Thorndike. Woodworth.)
3. Traits of the great, and their hygiene. (Various biographies. An example is found in Lincoln's melancholy and its influence on him. Was he right or wrong in turning to jokes for relief?)
4. Traits common to lower animals and human beings; traits peculiar to man. (Hornaday. Davenport — *The Trait Book.* Hopf.)
5. Self, sex, and society; their influence on human life. (Tansley.)

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CHAPTER IV

A General View of Mental Soundness and Unsoundness

Exercises. — 1. Consider cases of mental illness or defect which have come to your knowledge. Was the trouble chiefly one of (1) perceiving, or (2) remembering, or (3) imagining, or (4) thinking, or (5) feeling, or (6) acting? Which of these six kinds of difficulty would perhaps pass as unimportant? Which are regarded as most serious?

2. Says Beers, describing an insane patient, "His was a forceful personality, and the traits of his sane days influenced his conduct when he became insane."[1] Cite cases, if you can, to show to what extent the traits of mental health are carried over into mental illness, and to what degree the patient shows new traits and so takes on a new personality when he becomes queer, or even mentally unbalanced.

Ideals of mental health. — As a great continent can not soon be explored thoroughly and mapped accurately, so do some of our most important concepts long lie undefined. Such are health, disease, consciousness, sanity, insanity. Experts in psychiatry have pronounced insanity indefinable. In a general way, we may say that the sane are those whom we can "get along with," while the insane are those who are not "liveable," who are not "amenable to reason," as Cabot puts it. Resorting to our familiar terms, we may assert that he is sane who shows himself capable of self-management within, and of self-adjustment with the environment without. But this raises endless further questions, which for the present at least are practically unanswerable.

[1] *A Mind That Found Itself*, p. 172.

We must be very tolerant in our ideals of mental health. Individual minds, like individual bodies, may show very various proportions among their parts and still all be healthy. John F. Worley gave up a salary of twenty-five thousand dollars with a large manufacturing concern to accept less than five thousand dollars as a professor in the University of Michigan. Is such an act a mark of mental weakness? Perhaps the mere money-maker would say so. But one is sanest when he is fulfilling his highest and best purpose in life. Perhaps the mere money-maker is not thoroughly sane. Again, the dreamer and the doer may mutually pity each other, but both serve a purpose. It may be that a happy Hindu, sitting half hypnotized by the placid waters of the Ganges, dreaming so deeply that a thousand years are as yesterday and time has almost ceased, is as sane as a worry-worn New Yorker watching the ebbing and flowing of the stock market.

Bodily and mental health. — We have found that a person is a bio-mental unit. Bodily and mental health, then, are one so long as we dwell in the flesh, and ultimately must never be considered separately. The same streams of transmission, both cardio-vascular and neural, flow through body and brain, and either body or brain may change them. Fatal diseases do not, in general, prove fatal until they attack the brain.

> No one can be philanthropic with jaundice [says Crile]; no one suffering from Graves' disease [a kind of goitre] can be generous . . . . Just prior to death from any cause every one is in a mental state which, if it could be continued, would cause that individual to be judged insane. If the delirium that occurs in the course of certain diseases should be continued, the patient would be judged insane. . . . Individuals under overwhelming emotion may be temporarily insane. . . . The stage of excitation in anesthesia is insanity.[1]

[1] *Origin and Nature of the Emotions*, p. 120.

And not only does the chemistry of the body change the chemistry of the brain, and so our feelings and ideas, but these affects and ideas change the chemistry of brain and body and so produce bodily health or certain types of bodily disease, such as indigestion or cardio-vascular trouble. Tolstoi gives in *Anna Karenina* an instance which, though fiction, is true to life, when the physician, blind to mental influences, searches in vain by a physical examination of "Kitty" to find the source of an ailment whose real cause was unsatisfied love. The physician was right to begin with a bodily examination, but he should have carried his search on to the mental field — into the young woman's affects.

Further, the phreno-mens, with its picturing power, can produce a replica, mainly mental, of almost any bodily disease, pains and all, which, though confined for the most part within the head of the patient, is nevertheless very real to him. It is largely, but not solely, these brain-born diseases which are cured by mental healers.

Partial and complete mental illness. — Mental illness or defect, like that of the body, may be either partial or complete. Of both body and brain we can, from our present standpoint, make the statement: They are not one organ; they are many organs coöperating in health, lacking in some part or failing to coöperate where abnormality appears. The phreno-mens, like the body, is seldom, if ever, sick in every part and process at once. Beers's memory was better during his insanity than when he was sane, and the wheels of thought went on grinding out their grist according to what was put into the hopper.

> Most sane people think that no insane person can reason logically [he says]; but this is not so. Upon unreasonable premises I made most reasonable deductions, and that at the time when my mind was in its most dis-

> turbed condition. . . . During the seven hundred and ninety-eight days of depression I drew countless incorrect deductions. But such as they were they were deductions, and the mental process was not other than that which takes place in a well-ordered mind.[1]

As we have seen, any center may conceivably be present or absent, sound or unsound; and, practically, we know that one may be sound on all subjects but one, his "weak spot," be it mechanics, alcohol, sex, or religious ceremonial.

Character and intelligence: the affects and the intelligects. — As we can see both in daily life and in the mental laboratory, human nature seems to divide into two parts, the nature of the two divisions being suggested by such contrasted terms as feelings and ideas, character and intelligence, the affects and what we may call the *intelligects* (perception, memory, imagination, and thought, the components of intelligence). These two "halves" of the mind may wax or wane with a large degree of independence of each other. The man of brilliant intellect may be uncontrolled affectively, as Poe was, or even "the wisest, brightest, meanest of mankind," as Pope thought Bacon to have been. On the other hand, there are the John Wesleys, of no great depth of intellect, probably, but who feel "a strange warming of the heart," and who make the world warmer in consequence.

Here is the reason why the intelligence test can not compass the human soul: It covers the intelligects at most, leaving the affects almost unsounded. Further, the condition of the affects may and sometimes does influence the working of the intelligence. The fear that a child has for his examiner may cause him to receive a low intelligence rating.[2]

[1] *A Mind That Found Itself*, p. 54.

[2] Walter E. Fernald has emphasized this fact of comparatively independent character growth, that is, growth of the affects, and has made one of his notable contributions in "Character *vs.* Intelligence in Personality." See the *Journal of Abnormal Psychology*, Vol. XV, No. 1, pp. 1–10.

Nervous paths and resistances. — In order to understand the "currents of the soul," we must learn a little of nervous currents and the nervous mechanism that controls their flow. Neurones, that is, nerve cells, are not usually rounded like the typical tissue cell, but extended into branchlets — fibers. Along these fibers pass nervous impulses, commonly called "currents." Now the fibers of the various neurones do not grow together where they approach each other, but remain distinct and separate. The millions of points at which they approach closely enough for a current to pass from one to the other are known as *synapses*. Between you and your various friends are varying degrees of resistance; you can tell a secret easily to one, with difficulty to another, and to a third, perhaps, not at all. There is a similar relation of resistance among synapses. A nervous impulse may pass one synapsis with ease, another only under pressure, and a third not at all. In general, the resistance encountered in various parts of the nervous system determines the direction of the stream of transmission, and hence the course of our affects and intelligects — how we feel, what we think of, and what we do.

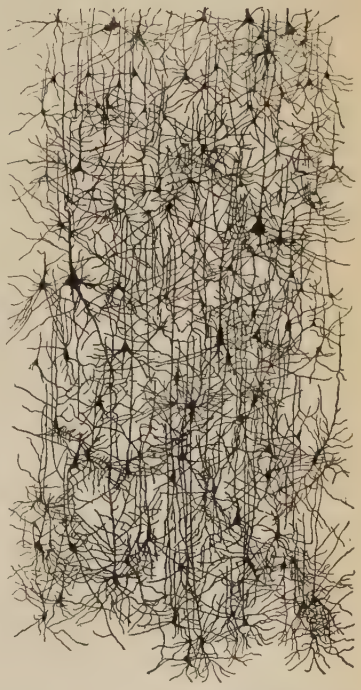

Fig. 6. — A section through the cortex of the brain, showing complex ramifications of neurones. (From E. L. Thorndike's *Elements of Psychology*, p. 129, Seiler.)

The synapses change with experience, especially in human beings, their resistances increasing or decreasing according to certain laws which we may refer to as the laws of learning.

The laws of learning.— These can be most simply stated, for our purpose, in Thorndike's terms of *readiness*, *exercise*, and *effect*.

Readiness refers to nature's ripening of the nerve cells and perhaps reducing synaptic resistance, and to the charging of the neurones with energy. A boy may be ready, at sixteen, for geometry and for special friendship with girls; but may have, at twelve, synaptic resistances entirely too great to permit him to care for either. The teacher has to learn the art of inducing readiness, of "arousing interest," so far as possible, in the lesson of the day. This means that she is appealing to instincts, individual traits and habits, such as curiosity, fondness for music, or the reading habit, to release nervous energy for repeated discharge along some chosen channel. The more ready a nervous path is, the more easily it can be fixed. "If you let a horse run away just once," said an experienced horseman, "he will do it thereafter at every opportunity." The average horse is always ready to run. His nerves are ready by inheritance. In a similar way, some people are extremely ready to be fearsome, nervous, or melancholic.

I have no doubt that many mental "diseases" are *learned* — a principle that has received all too little attention both in psychiatry and in mental hygiene. Put a subject into the mood, the mental set, to see ghosts, and he may easily see what is not there. Strongly suggest to him a pain or a disease and you make him "ready" for it; that is, you lower his nervous threshold so that he is quick to notice signs of it, or perhaps bring on a brain-born attack of the trouble. Many

adults have a readiness for headaches and many children a readiness for vomiting which, indulged, becomes a disease.

Health, too, can be taught and learned. A physician, having to deal with a very conscientious woman who had lost the power of speech, induced her to sign a contract to speak to him on a certain day. She did, and thereafter retained the ability to speak. Her "readiness," that is, a great charge of nerve energy, broke the resistance which had been set up in her speaking synapses, and thereafter the paths were open.

Exercise refers to the amount of nerve energy that passes over a given path. If the nervous current is very intense and strong, a path, connection, or bond, as it is variously called, between stimulus and response, may be fixed with few repetitions, or perhaps a single one, as when a soldier is so "shocked" by artillery that thereafter any explosive noise, or even the rumble of a railway train, sets off the response of terror and wild behavior. If the nerve current during the learning is very weak, even many repetitions may leave but a meagre mark.

Let us recall that Beers, before his breakdown, "thought of epilepsy," "dreamed epilepsy . . . thousands of times"; and believed, when his imagined attack came, that he had become epileptic. While he did not actually educate himself into epilepsy, did not "learn" it, he nevertheless practiced fear and delusion all these thousands of times, with their resulting bodily and mental consequences.

Carroll rightly calls attention to "the ever-reiterated dislikes, the antagonistic habit, and the unfair judgments" which "explain a large part of the unhappily unsocial histories of many of the nervous." [1]

[1] Robert S. Carroll — *The Mastery of Nervousness*, p. 153.

Not only do we often anticipate possible futures and worry through them, but we relive the unhappy past — the accident, the quarrel, the wrecking blunder. Like Lady Macbeth, we keep rehearsing these, groaning that "What's done can not be undone." Many an hysterical or shocked personality has drilled itself into disease by frequent repetition of some unfortunate event until at length the original mishap is forgotten and only peculiar behavior and perhaps a false explanation of it remain. An hysterical girl, disappointed in love, was restrained from jumping from a bridge to commit suicide. Later, she would sometimes give a peculiar leap and would explain it by saying that she had slipped or had turned her ankle. As a matter of fact, she was mentally rehearsing her attempt at suicide.

Experiment shows that it is even possible for an individual to learn, in the sense of forming a habit, without any intention of doing so, and without knowledge thereafter that he has done so until some unusual condition makes him aware of it.

Effect is the agreeableness or disagreeableness resulting from the exercise of any bond. Pleasure opens the path. Dolor tends to turn the stream of transmission elsewhere.

Note, too, that brains rendered weak or extremely docile from any cause are often strongly affected, and such affect may be permanent. A nurse had a patient, temporarily ill of mind, who ten times attempted to remove a bandage from his head. She finally brandished a ruler and threatened to use it on him if he did not allow the bandage to remain. He not only complied, but cowered under the quilts and, even when he had recovered, was still in awe of her despite the fact that she was consistently kind to him. Many

patients naturally love those who care for them in illness and helplessness — a fact which probably helps to explain the many marriages between nurse and former patient. Love lasts beyond the illness, as fear did in the case cited. There was good reason, in the days of chivalry, for making the young knight fast till he was weak before he was initiated into knighthood ; and there is good reason why a teacher who wants to win a pupil should make a friendly call at the home of that pupil when he is ill or in trouble.

Sometimes the effect of an experience is so extreme as to close the nervous channels for a considerable period, or even permanently. When a certain boy refused to go on a skating pond, it was found on questioning him that he had long before attempted to learn to skate but had wrenched his ankle severely. He would never go on the ice again. Two college professors of my acquaintance never attempt, when leading chapel exercises, to repeat the Lord's prayer from memory. Each had, on one occasion, failed in an attempt to do this. A man who essayed to pass through a covered bridge on a very dark night walked astride the neck of a sleeping bull. The animal rose and ran with him for some distance. He managed to dismount without bodily injury ; but as a result of his extreme fright, he was unable — mentally unable presumably — to use his voice for weeks afterward.

Extreme cases of intensity of exercise or of intensity of effect are often spoken of as "shock." Perhaps certain cases in which vigorous exercise is forced on unready neurones, as when sensitive-minded children who are not ripe for some branch of learning are nevertheless compelled to prosecute it, should be included under the same term.

Neurograms. — As people form groups which function together, so do neurones. Related experiences are likely to

be lodged in related nerve cells. Take this as an example: You ask some one what "Christmas" makes him think of. He replies, "Music, bells, dinners, gifts, Santa Claus, the origin of the Christian religion," and so on. The many nerve paths in which these experiences are registered are netted together so that the nervous current, passing along what is at the time the line of least resistance, rouses the resulting succession of affects and ideas.

A neurogram is a brain area which holds recorded a certain experience. Prince, who coined the word, likens it to "telegram," a message registered on paper instead of brain cells, and to other "-grams."[1] Various other terms have been used, such as "pattern" and "constellation," to refer to the same fact. A very complex neurogram (or more accurately, the consciousness that results when that neurogram is active) is often spoken of as a "complex." For example, a psychiatrist may tell us that "X has an inferiority complex," meaning that X, perhaps because he was by inheritance lacking in self-assertion, and was then brought up in poverty, punished a great deal, told that he was homely and a fool, and in general subjected to soul-humbling experiences, has come to take it more or less for granted that he is an underling — quite possibly a suffering underling whom everybody is trying to keep submerged, and whose spitefulness and bitterness are accordingly justified.

Cases in which a small stimulus seems to set off a great passion may be explained by assuming that a neurogram has been built, perhaps by numerous similar instances, which, thrown into a condition of readiness, it may be by the mood of the day, is set off by the "small stimulus" somewhat as a match sets off a keg of powder.

[1] Morton Prince — *The Unconscious*, p. 131.

The ideal of phreno-mental soundness. — Mental soundness is centered in the stream of transmission. The first question is, How much nervous energy is present? Is there enough to constitute a personality? The second question is, Along what channels does this energy flow? What kind of behavior results?

He of perfect mental health and strength has a body whose organs are in such temperamental balance and function as to send a rich, pure blood stream to the brain. The brain itself is full-furnished, with no center lacking or weak. It is subjected to wholesome stimuli of moderate intensity. As a result, it is well energized and well balanced, with no center either repressed or overworking, and with the integrative centers presiding over all.

Mental defect or illness means a lack of one or more of these conditions. In the remaining part of this chapter, we shall sketch the general nature of the causes whereby mental aberration is produced.

Bodily causes of mental difficulty. — The general bodily background of our mental life has already been shown. Every organ projects its influence into the mental field, and if the stream of transmission is weak, any one of a number of organs may dominate it and throw the phreno-mens out of balance. The absence of the contribution of any organ must be noted, as well as its excessive presence. For example, all our bodily energy is developed in the muscles. Their activity contributes to courage, alertness, and self-confidence. Let them go into inactive retrogression and these qualities tend to disappear. We can readily understand why the balanced body, with every part functioning but not overfunctioning, underlies the balanced mind, and why the " daily dozen " for the body steadies the deeper currents of the stream of

transmission and does so much to keep us in daily mental poise.

All the principal disturbing influences that emanate from the body may be summed up under two heads: *poisons,* and *excessive stimulations of the kinetic system.* Poisons enter the blood, the chemical stream of transmission. They are generated by wrong foods, by diseases — especially infectious diseases — by fatigue, and very likely from other sources. Excessive stimulation of the kinetic system not only pours into the blood such impurities as adrenalin products and fatigue poisons, but reduces the nervous stream of transmission until only a fraction of a personality is left. Some of the most common disturbances that act on this system, aside from those of a mental nature, such as worry and emotional strain, are excessive bodily labor or athletics, intestinal auto-intoxication, chronic infections such as those accompanying adenoids or tonsillitis, skin infections, pregnancy, and improper diet.[1]

Stimuli and resistance. — A woman, watching a dog fight, fainted. Small boys who stood by seemed refreshed by watching the fight. A strong-looking business man, on reaching his store, sat down and wept from sheer "nervousness." Yet at other times the sight of his place of business only roused him to happy action. What causes these things?

The common error is to think of every person as the same as every other and the same at all times. We must consider, in every case, the material, the nervous system put under strain, and the stress — the stimulus — brought to bear on it. (See Figure 7.) Nervous systems have their strong and weak periods, and also their strong and weak spots. Very important, too, are the kind of stimulus and the length of time

[1] See Crile's *Origin and Nature of the Emotions,* p. 220.

it operates. Nature has so evolved us that apparently trivial stimuli, such as a tickle, liberate energy out of all proportion to their strength. A child can easily be tickled into a state of excruciating torment, or, if the tickling is continued, into exhaustion. Punishment by falling drops of water and by bastinado (light, continued taps on the soles of the feet) show also the terrible effect of summation of stimuli and monotony of discharge. Extreme fatigue or long-continued insomnia may do serious damage to the brain cells, or possibly, as is sometimes asserted, destroy some of them.

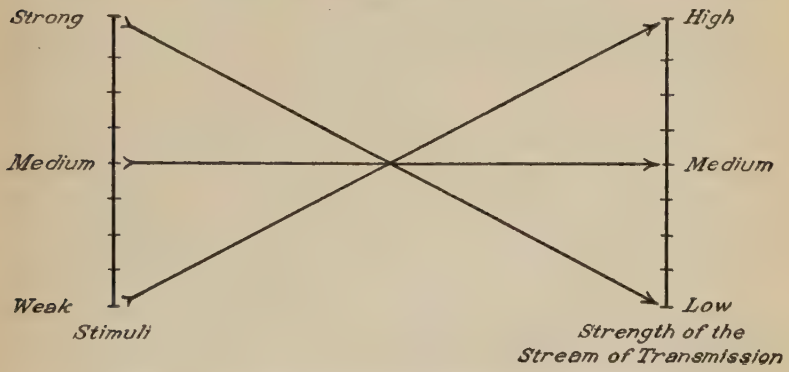

Fig. 7. — Suggesting variations in stimuli and resistance.

Brain centers lacking or weak. — Since the brain is such a complex biological machine, and since there is such a vast amount of poor inheritance, we must not be surprised to find that, in some instances, from among its hundreds of millions of neurones certain centers are missing, or that some of those present are so weak as to serve but imperfectly. Apparently, most of the feeble-minded, or, as they might better be called in many cases, the feebly-intelligenced, are so afflicted. So, probably, are the feebly-affected, those who,

though intellectually sound, are feelingless, not in the sense of being brutal, but who are affectively cold and indifferent to all things.

But there are more specific deficiencies. There are many who, like the lower animals, can perceive keenly and who may remember accurately, but can not associate (imagine and think) well; and the reason seems to be that they lack what the lower animals lack, certain centers in the frontal lobe of the brain. The phrenologists long ago located the intellectual faculties in this region, and much clinical evidence goes to show that this locating is correct. When the frontal lobe of the brain is injured, the patient usually becomes incapable of the higher mental acts and retrogrades toward a low state of intelligence and also toward a low state of character. That he does not always do so is probably due to the large factor of safety which nature employs, building in more neurones than any of us will ever use, so that some can be removed without immediate loss to the personality.

We can also discover specific affective deficiencies. One who, other things being favorable, permanently shows a lack of self-assurance, courage, or sexual or social feeling, in the face of situations adapted to draw them out, probably lacks the brain centers necessary to serve as their seat.

Injury, deterioration, or disease of brain. — A soldier whose frontal brain had been injured by a bullet had "bad spells" and convulsions from time to time. Gradually, the attacks diminished, owing probably to the slow correction of his cranial circulation. That brain trauma (physical injury) may cause mental aberration, lasting or fleeting, according to the nature of the damage done, is a fact familiar to all. However, the traditional kind of trauma reported by families to explain the peculiar mentality of their members

— the fall from the bed or the old apple tree, the kick from the mule or the blow of the baseball bat — these are usually naïve inventions or exaggerations to conceal an unfortunate inheritance.

As medical and psychological science advance, we learn with increasing accuracy the causal relation between the injury of a certain center and a definite kind of mental disability. For example, injury to one part of the "speech center" causes word-deafness. The ear does its part in transmitting, but the brain fails to receive the words. Injury to another part of this center is followed by what is sometimes referred to as a "word salad," in which the patient pours forth his words at random, his command over words having been impaired but not destroyed.

Injury may come from within the brain as well as from without. A small blood clot, formed elsewhere in the circulatory system, may be carried to the brain and there clog the circulation, causing temporary paralysis; or a clot may be formed in the brain itself, causing "shock," that is, paralysis of a more serious and lasting nature, usually accompanied by more or less mental difficulty. Other examples of inner injury are the bursting of a blood vessel, as in apoplexy, or, in rare instances, the forming of a tumor or other lesion, causing tumorous "epilepsy" or other unusual affection.

Trauma shades into disease. Examples are meningitis and paresis. In medicine, "itis" always indicates inflammation. Meningitis is inflammation of the meninges, the tissues that support the neural substance. It is a germ disease, and one for which we now have a fairly effective antitoxin. "Paresis" is a short form for *general paralysis*, a disease which probably never appears except in the wake

of syphilis.[1] It exhibits a progressive loss of bodily and mental powers, almost invariably followed by death. Its common name, "softening of the brain," indicates just the opposite of the real condition, for the brain actually hardens into a functionless mass of fibers.

In old age, the brain in many cases shrinks and deteriorates, 'the silver cord is loosed' within the spinal column, and senile decay of mind, known as senile dementia, sets in. But there is also a dementia of youth. As some machines do not "stand up well," so some brains do not continue to behave well, even in an ordinary environment and under no special strain. When this condition of dementia was observed to come on in youth, it was named *dementia praecox* (or *precox*), which indicates "loss of mind at an early age." But it may appear at any age. Whether it may be expected in an individual, and if so at what period, can best be found out from a study of his family inheritance.

Energy and resistances in the nervous system. — Whoever has watched a river as it passes from the swelling and overflowing torrent of spring to the small mid-bed stream of a dry summer, or a fire as it grows from a flickering, struggling flame until it streams in every direction and enwraps a whole pile of fagots, has a picture suggestive of what must go on in the brain as the stream of nervous energy swells or diminishes and its parts change their courses according to the resistances they encounter.

Mental disease often shows itself in the form of an abnormal

[1] Until recently, such a statement would have been called in question; but in the mind of anyone who is close enough to the facts to give his opinion any weight of authority, there is probably no longer any doubt of its truth. Cabot, for example, states that "It was not realized until the last few years that this disease is always caused by syphilis," etc. (Richard C. Cabot, *A Layman's Handbook of Medicine*, p. 247.)

increase or decrease of energy in the brain, and an affection of the synapses — probably due to poison in most cases —which opens and closes these brain switches at haphazard, with a result somewhat like what we should expect in a railroad system if all the switchmen went on strike and meddlers manned the job. Two contrasted conditions, often appearing as exaggerations respectively of the melancholic and the euphoric (overhappy) temperament, are melancholia and mania. The melancholiac may be thought of as one who is pessimistic to the point of insanity, whereas the maniac is often madly optimistic. In melancholia, the stream of transmission appears to be reduced to a small and sluggish current, confined for the most part to the oldest and most deeply worn channels. The patient is depressed, sits downcast, and is vacant of ideas. In mania, along with stronger impulses of energy, there is very likely a general throwing open of synaptic gateways and a random release of inhibition. The maniac may "think faster" than when he is normal, that is, have more ideas per minute, though they are likely to be illogically connected ; and he may enjoy an ecstatic happiness such as his sane moments never yield. It is no wonder that the maniac has such a comparatively good chance of recovery, since his difficulty, apparently, lies partly in his super-abundance of nervous energy, and it is no wonder that Plato described love, poetic inspiration, and other ecstatic states, as a kind of divine madness.

Certain centers out of function. — Whether a center is overfunctioning or underfunctioning is to some extent a relative matter, depending on how other portions of the brain are behaving. If there is much crime in a city, are the criminals overfunctioning or are the police underfunctioning? Probably both. Similarly, to explain any phreno-mental con-

dition, we must ask which centers are comparatively vigorous, which comparatively asthenic.

When, under the reducing influence of fatigue, one fails to muster the words of the foreign language he had mastered, or perhaps, wishing to speak the name of an acquaintance, can recall where he lives and how he looks but not what he was christened, it appears evident that while the trunk lines of the brain are still working, the extreme and finer ramifications of the fibers are out of function. The energy of the brain fails to reach to these outer filaments. Personality shrinks to something that may be roughly likened to the infantile or the senile. If we could draw a line around those parts of the brain that are still active, we should find it, I believe, coming in closer and closer to the brain stem (the racially oldest part of the brain, from which the newer portions have developed as branches), except that it would probably show bulges here and there to include the oldest and most firmly fixed attainments, the most thoroughly learned knowledge and the most practiced acts of skill.

We may lose, not only our power to summon knowledge from our brain cells for expression, but also the ability to take in, to understand, to give meaning to our impressions. Our *interpretative* centers are then out of function. To say that a sight, a sound, a sentence, or anything else, is understood, is to say that it starts a constellation of associations in the phrenomens, that it has roused a neurogram. Surrounding the receiving centers, as those for the eye, the ear, etc., is a group of interpretative centers which, by rousing associations, enable us to understand what is seen, heard, and so on. With the further aid of the association areas, chiefly of the frontal brain, we gain that deeper, thoughtful "understanding" which is so strongly commended to us in the Book of Proverbs. Put

the interpretative centers out of function and the patient may no longer recognize his friends or know what to do with his most familiar possessions. Most of us can make the experiment in a small way by selecting any word and pronouncing it over and over, keeping our attention away from the mental pictures suggested and clamping it to the mere sound itself. The word soon becomes void of meaning, as empty and vapid as if it were a first-heard fragment of Choctaw.

As already indicated, the highest and most lately evolved integrative centers are often first to give way under any shattering or reducing influence. Such an influence may in general be exerted by alcohol, hysteria, the rarefied air of high mountain tops, fear, fatigue, poisons, hypnotism, and various other causes. What happens when the integrative centers begin to give way depends largely on the relative strength of the instincts and on previous training. Boston, during her police strike, became a city of disorder. The Chinese village usually moves on in order and in peace whether the national government stands or falls. Soldiers are commonly disciplined into thoroughly fixed habits, with the object of enabling them, even after their governing, integrative centers have been frightened out of function, to carry on effectually through the customary responses of their lower centers. The hysterical, the drunk, the hypnotized, etc., may either lie as in a faint or a sleep, or respond convulsively, or at random, or with mechanical obedience, according to the condition of the lower brain and the stimuli applied to it.

Certain centers overfunctioning. — As in a town or a country, some party or bloc or clique may get control of affairs, so in a brain some unduly active center may draw all the rest unto the wake of its leadership. The elephant some-

times contracts a sexual mania so severe and prolonged that his keepers are compelled to kill him. Other examples are seen in the human "craze," be it sexual, gluttonous, miserly, socially ambitious, or alcoholic. The person afflicted is said to have a *mania* for this or that, and the word is often applied truthfully.

The overfunctioning of some neurones and the underfunctioning of others helps us to understand also the action of those neurograms which are the brain representations of *illusion*, *hallucination*, and *delusion*. An illusion is a false perception of a real object, as when one sees a stick and perceives it as a snake. An hallucination is a false perception of an unreal object, as when one fancies he sees an object without anything material to incite the experience (though there is usually something to suggest it). A delusion is a false opinion about some matter of fact, as when the ragged insane patient declares himself to be a king clothed in royal robes. Beers, we remember, long regarded himself as a persecuted prisoner. For some time, owing probably to bodily illness, his senses did not behave normally, but played him tricks.

> None of my food [he says] had its usual flavor. This soon led to that common delusion that some of it contained poison — not deadly poison, for I knew that my enemies hated me too much to allow me the boon of death, but poison sufficient to aggravate my discomfort. . . . Salt, sugar, and powdered alum had become the same to me.

He spoke to none of the relatives and friends who visited him, for, he says,

> Though they all appeared about as they used to appear, I was able to detect some slight difference in look or gesture, and this was enough to confirm my belief that they were impersonators, engaged in a conspiracy, not merely to entrap me, but to incriminate those whom they impersonated. . . . To have kissed the woman who was my mother, but whom I believed to be a Federal conspirator, would have been an act of betrayal.[1]

[1] *A Mind That Found Itself*, pp. 30, 58.

Evidently, the suspected-prisoner neurogram was so energized that it was seizing upon whatever impressions entered the mind and wresting them to its own interpretation.

Probably the centers that most frequently and systematically overwork in mental illness are the *self centers*.[1] We may think of these, I believe, as being the substratum, in the lower brain, of the integrative centers. The brain maps the body in the sense of providing points, neurones, which represent the various portions of that body. It also maps the environment, especially those places where the individual finds his greatest dangers and satisfactions. So far, the lower animals are quite similar to ourselves, though their ideas (if they can be said, in strict psychological terms, to have any) must be very hazy as compared with our own. But the human brain goes further and provides neurograms for such matters as "what other people think about me or may do to me," "my standing," "my memory," "my power," "my feelings," "my responsibility," "my importance," "my self" — whatever that means.[2]

The term "self-centered" now takes on a new meaning. One who is self-centered in the sense of having his self centers overdeveloped, has a most unfortunate deformity of the brain.

[1] Consider, in this connection, the instincts of assertion and of escape (self-preservation) as listed by McDougall, the proverb that "Self-preservation is nature's first law," and the fact, reported by psychiatrists, that psychoneurotic patients (roughly, those who are "nervous" from a mental cause) are as a class selfish and self-centered, seeking the gratification of their whims even at a tremendous sacrifice on the part of those about them.

[2] See James's discussion of "The Consciousness of Self," being Chapter X of Vol. I of his *Principles of Psychology*. He distinguishes (*a*) the material self, consisting of the body and whatever we can call our own; (*b*) the social self, the recognition we get from our mates; (*c*) the spiritual self, the "psychic faculties or dispositions, taken concretely"; and (*d*) the pure Ego, which seems by his analysis to be the outer and inclusive shell of any wave of consciousness, embracing all within.

Where the individual is full-orbed in other directions, the egotism may be somewhat concealed by large achievements and so forgivable, as in the case of Theodore Roosevelt and of George Bernard Shaw.

In general, the self centers, being lately evolved, are comparatively unstable; but, since they form an essential part of the nucleus of personality, they must be maintained in function if selfhood is to be maintained. Since they are sensitive within and subject to heavy bombardment of stimuli from without, they are, as a result, the seat of a great deal of mental pathology.

Inhibition, suppression, repression, expression. — Our Puritan forefathers practiced inhibition with great zeal. Certain modern critics think that they were fools, and if they were alive, they would feel sure that some of their critics are. After all, the good old-fashioned power to "hold in" is an excellent gauge of a certain very wholesome type of strength of personality. It is largely a test of the integrative centers.

Consider, for example, the following, from a description by a recovered mental patient, of the onset of insanity:

> In the next few weeks all that was normal fled very quickly. "She is getting worse every day," they reported. I was. One of the chief signs lay in the weakening of all inhibitions. That which makes an individual moral, decent, considerate, modest, kind, had gone — it had snapped. Except for short intervals of complete and painful lucidity, I had receded into some dim twilight such as the caveman may have known. Primitive impulses had their way.[1]

How long can the soldier stand up under fire before he must either act or go to pieces? Can the young man rule his sexual cravings, concentrating his energy on study and play? Must the girl flirt, or can she build *enkrateia*, as the Greeks called

[1] From Jane Hillyer's *Reluctantly Told*, p. 41.

it, "power within"? There is little doubt that we are adapting our modern ways of living to the weak and the pleasure-loving, just as we are adapting education to an ever lowering grade of intellect. We should get all the pleasure — all the legitimate pleasure — that we can; but we should strengthen our wills, too, for life's emergencies. That boiler is best which can stand the most pressure and accumulate the most power before it is forced to blow off steam.

Not everything can be expressed. Sherrington says that the channels of impression, as compared with the final paths of expression, are as the big end of a funnel to its small outlet. Much must be held back, consciously suppressed. Much will be repressed[1] unconsciously; for as muscles are inhibited from their action a multitude of times without our knowing it, so nerve centers may also be inhibited. Consciousness is commonly fixed on what the individual is *about to do*, the issues of the campaign. It must be or he would perish. Reaction time experiments show that a subject responds most quickly and effectively to a stimulus when he sets his mind, not on what stimuli he is to receive, or on his own ideas or feelings, but on the *end result*, the movement he is to make. In setting ourselves for the daily duty, we work best in the same way — with mind on final purpose. Consequently, a great deal that is of importance but which would interfere with a projected or forced course of action may be kept so far back from the channels of expression that we are unaware of its presence as such. Sometimes the rising phreno-mental wave is that of a wholly new type of experience about to break, due to the ripening of new centers, but which has not been taken account of. The young girl

[1] Some prefer to use the term "suppression" when there is an awareness of that which is inhibited, and "repression" when there is no such awareness.

may not know why she prinks and giggles more when boys approach, and may even sincerely deny that she does so; but older women understand it. Friends of those who are falling in love frequently know it before the victims themselves do. Herein lies one of the major difficulties, that these submerged experiences either can not be, or are not, frankly *recognized for what they are*, and so we have to say of them, as Tennyson did of his "idle tears," "I know not what they mean." Sometimes, it is true, they rise "from the depths of some divine despair"; but we usually hide our ignorance in less poetic phrase and say that they come from the "subconscious."

Such affects and intelligects may come at length to influence one's behavior very greatly without his knowing what moves him except that he feels strongly drawn toward some object or course of action, or strongly repelled by it. And as a minority party, though submerged for a time, may gather force enough to turn up much trouble or even instigate an insurrection, so may these unrecognized or discredited elements of personality. Let us consider a case.

A case of neurosis arising from the subconscious. — H. Crichton Miller tells[1] of a corporal, a man of the clerk type, given to music and artistry and not at all to war, who, while serving in Egypt, was brought to him with a neurosis, the outstanding symptoms of which were insomnia and head pains. To the suggestion that he be sent home he replied with apparent sincerity that he wanted to stay with his unit, as going home would only mean going to France and he was better off where he was. However, on being hypnotized, asked what he most wished for in the world and told to write the answer, his hand tremblingly scrawled the words, "*Leave*

[1] *The New Psychology and the Teacher*, p. 135.

Egypt." Later, when shown this, he could scarcely believe he had written it; but the evidence from within his own soul helped him to understand himself, how much of his old home personality had been submerged, and why he had broken down.

From introspection to action. — The approved modern way of curing revolutions is by parliaments and congresses, wherein matters are talked out instead of being fought out — after frank discussion, unity of action. The modern way of preventing the civil wars of the soul is frankly to recognize the forces that arise there, to realize what the problem of self-management or of self-adjustment actually is, and so secure the highest possible measure of unity of action. Perhaps the psychologist may be forgiven if, at this point, he glorifies his calling so far as to urge that all who can take an interest in psychology and understand it should have at least an introductory course in the subject, including exercises in introspection and a study of selfhood.

There are two extremes to avoid, that of the motor-minded man, and that of the mere dreamer or the psychic voluptuary who unreasonably enjoys *himself* but not much else. The first has the world too much with him and the second is too much with himself. The strongly-motor consciousness may keep its stream of transmission flowing so vigorously through the channels of action that the energy of important centers is overwhelmed. There should be periods of vacation-like placidity, of reflection and expectant waiting for the whisperings of intuition, times when the still small voices within us have a chance to be heard. The other extreme, that of the Hamlet dreamer, breaks out of the dream state with an effort, to act but spasmodically and impulsively. The confirmed dreamer may never "break out" at all; his channels of expression are permanently closed.

The healthy personality rises from periods of introspection of the self and reflection on the environmental problem to engage in whole-souled, unified action.

CLASS EXERCISE

Study the laws of learning as applied to (1) acts of skill, (2) ideas, and (3) affects.

Begin by learning to make Figure 8. Observe it closely, and then copy it. How many trials are necessary before you can make it without a pattern?

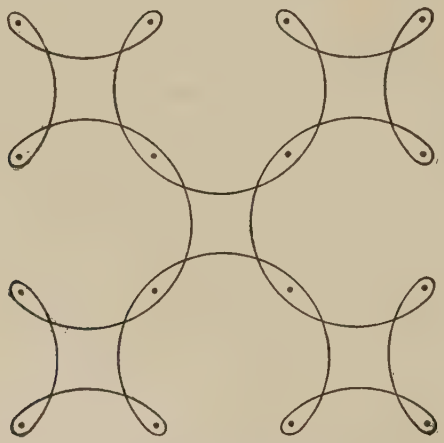

FIG. 8. — A study in learning. (From LaRue's *The Child's Mind and the Common Branches*, p. 115. Macmillan.)

Consider *readiness*, *exercise*, and *effect* as related to this act of skill, to the learning of ideas such as those of mathematics, history, or science, and to the acquisition of affects such as a taste for olives, a liking for colors and types of art, and the appreciation of various kinds of music, social functions, and literature.

Are there any essential differences in the learning of these various kinds of subject matter? Are any new laws necessary? Any variations of the old ones?

Select some affective habit which you think children should learn, such as the ability to lose a game without irritation or resentment, and plan how to secure readiness, exercise, and effect in the teaching of it.

FOR FURTHER STUDY

1. Look up in the dictionary the root meanings of "insane" and "holy" and compare them.

2. Why should Beers's memory have been better when he was insane than when he was sane? Consider the law of exercise. Under which condition were his experiences most intense and accordingly registered most strongly in the neurones?

3. Give instances of your own to illustrate the effects of injury to the brain.

4. Do you think the lower animals ever have mental diseases? What would probably happen to any that did have them?

5. Some feebly intelligenced children can quote at length matter which they have heard but once and do not understand, sometimes even when it is in a foreign language. How account for this? Dercum suggests that there may be in such cases a "pathological tendency to fixation of the combinations [of neurones], perhaps a disease of the synapses." [1] If such is the case, how does it help us to understand the child's lack of plasticity, adaptability, intelligence?

6. There is a common belief that memory power and reasoning power tend to crowd each other out, so that he who is good in one will not be so in the other. What is your opinion, and why?

7. When you stay home from a party or other function which you want very much to attend and study something disagreeable, what effect has it on you? How do you explain this? (Consider fatigue of the integrative centers.)

8. Tell yourself repeatedly that you are very hungry, or sleepy, or have some disease or pain such as a headache or toothache. Can you produce that which is dwelt upon? Can you think it away again?

[1] *Essay on the Physiology of Mind*, p. 98.

9. Give your own examples of illusion, hallucination, and delusion.

10. Read Dryden's *Alexander's Feast* and tell what you think was going on in Alexander's brain, autonomic system, and kinetic system during Timotheus's recital.

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. The consciousness of self. (James.)
2. Statements of the laws of learning. (Thorndike. La Rue.)
3. Behavior of neurones and synapses in mental disease. (Dercum.)
4. The law of Effect and the "habit of success." (Gulick.)

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PART TWO: GENETIC

Inheritance and Development of Traits

PART TWO

CHAPTER V

Inheritance of Traits

Exercise. — Get all possible information about your family and plot your family tree, following the model shown on page 106. The symbols given are those in common use. You may invent others for your particular purposes. If you wish to study any special trait, as sociability, shade the circle or square of all who possess it.

Describe the most striking physical and mental traits of each relative so far as possible. Which ones do you most resemble?[1]

In the preceding chapters, we have sketched the general outlines of our subject. We shall now trace origins and developments — how human traits are handed down by inheritance and how they ripen. We shall study briefly the genesis and description of mental diseases and follow an outline of the treatment of them, that we may learn something of how mental health may be regained.

Heredity and the teacher. — "Why study about our ancestors?" you may ask. "We do not have to consider the mental health of ancestors, but our own and that of our offspring." True. But the reason why we study our ancestors is not because we hope to do anything for them; we want to find what they have already done for us. Or, to speak more accurately, we want to find what streams of

[1] More detailed information concerning family trees and how to chart them can be procured from the Eugenics Record Office, Cold Spring Harbor, New York.

influence shaped the lives of the race in the past, are active now in us, the living, and will do much to fix the future of the children to be.

Those who are learning to be teachers will not teach a day without meeting some problem on which they will wish for this light from the past. Why do some children learn faster than others? "They are brighter," you say. But how came they to be brighter? Can we make all children

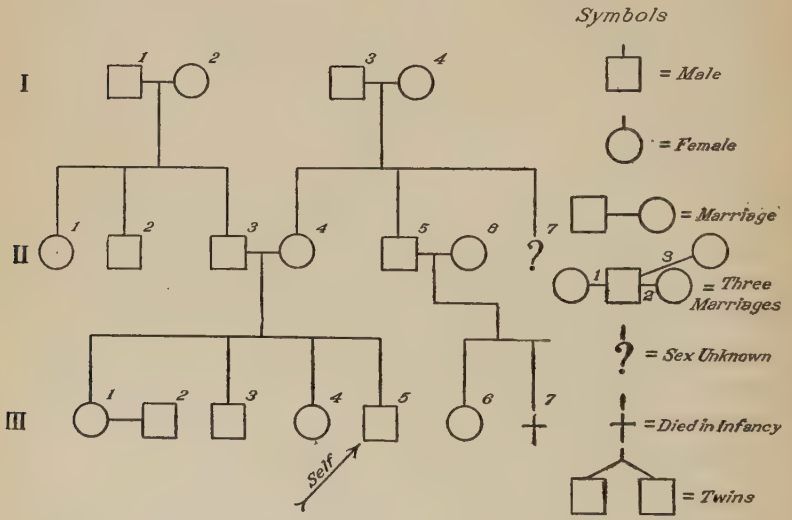

FIG. 9. — A sample pedigree record.

brighter? Is the teacher to blame for retarded children? Can all be brought "up to grade"? Why are certain p ils spiteful and irritable while others are constantly calm and self-possessed? Why is one so fearful and another so bold? And why do we find these contrasts even within the same family? Is there any pedagogical recipe for making conscience, or must nature supply it? Are boys bad all through,

or only in spots? Can we fit a child for any vocation, at our pleasure? Are children on the same moral level as savages or barbarians? Why is one child mentally healthy without effort while another learns health with difficulty, and a third remains nervous, weak, and fearful in spite of all that can be done for him?

A farmer who has bought an orchard and is ignorant of the history, the *genesis* of his fruit trees, knows neither how to deal with them nor what kind of fruit to expect. To him, a tree is a body of concealed but self-assertive and rapidly developing forces and tendencies. Similarly, a teacher who is ignorant of the genesis of human nature knows neither how to deal with it nor what kind of fruit to expect from the family tree. To him, a child is a body of concealed but self-assertive and rapidly developing forces and tendencies. Only by studying the past can we achieve the aim of mental hygiene.

Are we born or made what we are? — Biologists hold that every plant and every animal, from moss to man, is formed by two forces, heredity and environment. Which, if either, is more important?

One of the most enlightening efforts to answer this question was made by Francis Galton. He reasoned that if he could find people with exactly the same heredity, then whatever differences appeared in them must be ascribed undoubtedly to their differing environments. Accordingly, he began studying twins. He found a number of cases (about eighty) of close similarity, sometimes so close that even the parents could not tell their own children apart, one being "fed, physicked, and whipped by mistake for the other." In spite of varying environments in later life, these twins remained, in general, so much alike as to make Galton

> . . . wonder whether nurture can do anything at all, beyond giving instruction and professional training. . . . There is no escape from the conclusion that nature prevails enormously over nurture when the differences of nurture do not exceed what is commonly to be found among persons of the same rank of society and in the same country.[1]

Famous and infamous families. — " Blood will tell." Everyone has heard of the Jukes, the miserable family of paupers, criminals, and ne'er-do-wells whose family history, dating back to 1720, was described by Richard L. Dugdale in 1877. The name Juke was fictitious, though the family was sadly real. Recently, the true name has been found out through the discovery of Dugdale's original manuscript, and the Eugenics Record Office has studied the family further to find whether its members improved as they scattered into better environment.

> On the whole [reports Dr. Davenport], the later descendants of the Jukes, in Connecticut, in New Jersey, even in Minnesota, still show the same feeble-mindedness, indolence, licentiousness, and dishonesty, even when not handicapped by the associations of their bad family name and despite the fact of being surrounded by better social conditions.

In contrast with this long black record are the bright pages of the histories of naturally noble families, Abbot, Hull, Eliot, Edwards, Lowell, Lee, and many others, whose influence has been a stream of purification and uplift in whatever environment they have entered.

A striking combination of good and bad is found in the " Kallikak " family, a part of whose pedigree is depicted on page 109.[2] Martin Kallikak was a man of good family, but at the age of twenty-one, when a soldier in the Revolutionary War, he indulged in a sowing of wild oats that resulted in the wretched family line shown on the left. His partner in

[1] *Inquiries into Human Faculty.* See article on "History of Twins."

[2] Adapted from the pedigree as published by the Eugenics Record Office.

this unfortunate alliance was a feeble-minded servant girl. He later married a woman of good blood, giving rise to a second line of descendants in marked contrast with the first.

The stream is like its source.

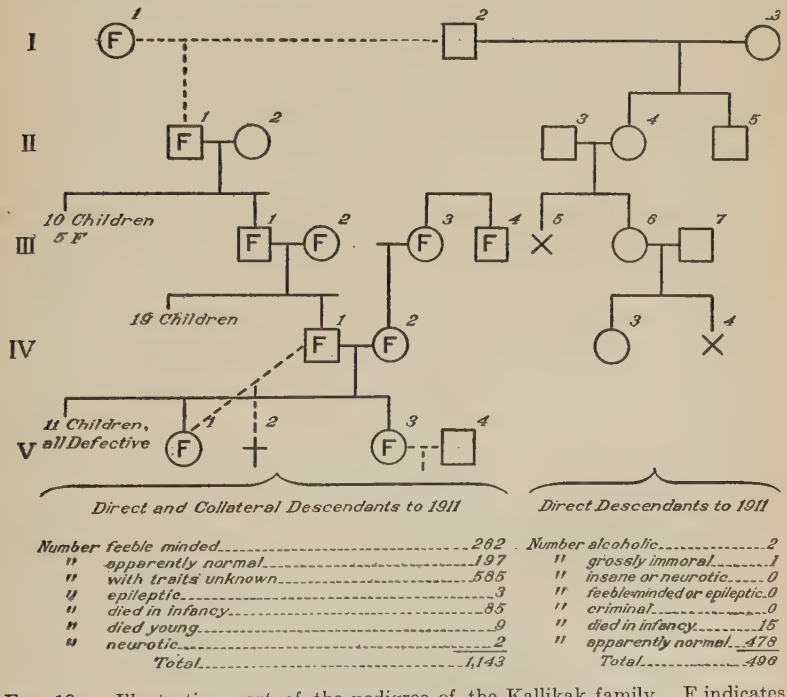

FIG. 10. — Illustrating part of the pedigree of the Kallikak family. F indicates feeble-mindedness. The dotted lines indicate illegitimacy.

What can mental hygiene do? — Can we not by educational effort purify the stream so that, from the present onward, the whole course of humanity will be free from taint? Unfortunately, no. As someone has put it, "Wooden legs are not inherited, but wooden heads are!" In other

words, acquired traits are not (so far as known) inherited. That only can be passed on by inheritance which was received by inheritance. Education, like wooden legs, is acquired.

Whether a child's ancestors were educated or not makes no difference with his inborn brain power. Whether they were *capable* of being educated makes all possible difference. Mental hygiene can not create a sound mind. Its aim is to keep healthy the best that is inborn. Working along eugenic lines, we can hope to determine what quality of mind shall be born.

The germ-plasm. — Every plant and every animal begins its life as a single cell, a seed cell, commonly called a germ cell.[1] These germ cells are *in* our bodies but not *of* them. From the very dawn of life to its close, they are kept as separate from the ordinary body cells as apple seeds are from the body of the apple. These germ cells, considered all together, are known as the germ-plasm.

The body feeds the germ-plasm, but does not determine its makeup, does not form it, and can not reform it. It forms the body and at the same time continues its own life, somewhat as yeast makes bread and at the same time makes more yeast. From the beginning of human life, it is thought, the germ-plasm of our species has quite steadfastly maintained its own constitution, though different, of course, in different family lines. To what extent, if at all under ordinary circumstances, it can be influenced by the body in which it dwells, is uncertain. It changes in its own mysterious way, especially when the germ-plasms of two family lines meet and mingle in the body of a new being, and mold

[1] In cases where there are two sexes, each parent contributes a germ cell, the two parent cells uniting to form the one-celled body of the young.

the bodies of offspring accordingly. Acquired traits, including those that come with education, apparently can not reach it, but affect the body cells only, and so are not inherited.

As already indicated, when sexual mating occurs, the germ-plasms of two lines mingle, for better or for worse. Although this precious substance may be injured by various " racial poisons," our only chance to " educate " and improve it appears to be through wise marriage. If we hope ever to improve the inborn abilities of future generations, we must teach our young people the science and the art — certainly the art — of wise mating; in other words, eugenics.

How traits are handed down. — It will help us to understand human nature in general, and especially how personalities come to be composed of such a variety of traits, often contradictory, if we look a little further into the method of inheritance.

In the germ cell which begins a new life, there is thought to be a " determiner," or gene (probably a bit of chemical matter), for every trait which that person inherits. If any determiner, as that for brown eyes, is lacking, the individual can never show that trait.

Two kinds of trait. — Now, traits are of two kinds, as Mendel discovered when he crossed tall peas with short peas. All the offspring of the first generation of peas were tall. Tallness, then, as compared with shortness (in peas), is *dominant.* But in some of the hybrid tall peas born of that crossing, shortness was lying *recessive;* that is, the determiner for shortness was present in the germ-plasm, but could not make its presence evident because it was overpowered by the dominant determiner. Mendel continued

his breeding experiment until, from these tall hybrid peas, he brought forth some " pure-blooded " short peas.

A dominant trait, then, is one whose determiner dominates its opponent. A recessive trait is one whose determiner recedes, gives way to its opponent. These terms are relative, not absolute. A trait that is dominant over one opponent may be recessive to another. For example, brown hair is dominant over golden, but recessive to black.

Three kinds of parent. — Let D be a dominant determiner, *r* a recessive one. For instance, D may be a determiner for brown eyes, *r* for blue eyes. Now, for each trait inherited, such as eye color, every person has received two determiners, one from each parent, and carries them in his germ cells throughout life. Evidently, he must receive (1) two D's, or (2) a D and an *r*, or (3) two *r*'s. When this person matures, then, he must be, with regard to any trait, such as brown eyes, one of three kinds of possible parent:

DD	D*r*	*rr*
D + D, or D_2	D + *r*, or D*r*	*r* + *r*, or r_2

The D_2 individual not only has brown eyes, but every germ cell carries a " double dose " of brown eye determiner. A D*r* also has brown eyes, for the dominant determiner always shows its presence by building the body accordingly; here, however, the blue lies latent, and may remain hidden through successive generations, but will show in the eye as soon as the absence of the D gives it a chance. The r_2 is a " pure recessive," has blue eyes, and none but blue-eye determiners in the germ-plasm.

Six kinds of mating. — Each kind of parent can mate with another like himself, or with either of the two other kinds. This gives, with regard to any trait, a total of six possible

kinds of mating.[1] We can work out the results by writing D + D instead of D_2, D + *r* instead of D*r*, etc., and then multiplying as in algebra, except that we write our exponents as subscripts, and with the meaning explained above.

Using × to indicate mating, the results appear as given below.

1. $D_2 \times D_2 = 4\,D_2$
2. $D_2 \times Dr = 2\,D_2 + 2\,Dr$
3. $D_2 \times r_2 = 4\,Dr$
4. $Dr \times Dr = D_2 + 2\,Dr + r_2$
5. $Dr \times r_2 = 2\,Dr + 2\,r_2$
6. $r_2 \times r_2 = 4\,r_2$

The coefficients on the right indicate *proportions* only. Take, as an example, case 4 (Mendel's most celebrated case). This means, in the matter of eye color, that if brown eyes marry brown eyes, the blue lying latent in each parent, then among many children from such matings, one-fourth will be D_2's, pure-blood (better, pure-plasm) brown, one-half D*r*'s like the parents, and one-fourth pure-blood blue.

In cases 1, 2, 3, and 6, we can foretell the eye-color of every child. In cases 4 and 5, we can only foretell the possibilities and what the " chances " are. Practically, prophecy is made difficult by the fact that we can not tell a D_2 from a D*r* by appearance, but only by tracing descent.

[1] In the formulae as here presented, no attention is paid to sex. For example, where a D_2 is mated with a D*r*, either may be the male and the other the female. Sex-linked inheritance adds a further complication. Color blindness, for instance, is a recessive trait whose determiner, wherever it appears, is linked with and carried along with the determiner for sex. Since every germ cell in a male carries but one sex determiner, while every germ cell in a female carries two, and since each sex determiner may or may not carry also the determiner for color blindness, it becomes necessary, in order to show the method of inheritance for this and similar traits, to develop three further formulae.

For an account of sex-linked inheritance the student should see some textbook in genetics (such as that of Walter), or write to the Eugenics Record Office, Cold Spring Harbor, New York.

It should be added that there are many cases in which the inheritance of traits can not as yet be fitted into the comparatively simple form here presented, partly because that which is at first approach called a " trait " is often found under further analysis to be a multiple character, with several determiners. Further study shows it splitting up into a group of constituent traits. Height, for example, is dependent on, composed of, length of leg, of thigh, of back, etc. But the general view to which this present discussion is introductory is supported by almost unlimited evidence.

Heredity and mental hygiene. — The more we learn of the inherited traits of children, the better we know how to educate them. For example, we know that feeble-mindedness is recessive to normal-mindedness; that in general, feeble intelligence behaves toward strong intelligence as blue eyes do toward brown eyes — although as between eye color and intelligence there is of course no necessary connection. Parents who are feeble-minded by inheritance can have none but feeble-minded children. From nothing, nothing comes. No teacher should attempt to bring such children up to the normal standard. Let us make the unfortunate as happy and useful as is reasonably possible; but if we are to lavish time anywhere, social profit demands that we spend our energies on those who will produce the largest return.

Further, children are not only born feebly or strongly intelligenced, but feebly or strongly affected, feebly or strongly inhibited, feebly or strongly fearful of this or that, and so on through the list of traits. In fact, most of the traits we commonly speak of, such as " intelligence," are not ultimate and simple unit characters in nature's deft and highly analytical method of handling such matters, but

compounds of traits — groups of unit characters. Intelligence, for example, would break up into intelligence-in-dealing-with-color, intelligence-in-dealing-with-tone, etc., and these fractions of " general intelligence " would again subdivide into perceiving color, remembering color, etc. To analyze the affects in this way is not so easy ; but nature has analyzed them, giving her children special fears, special spots of irritability for certain things which act on the individual like a " red rag to a bull," special lines of exceptional courage, special affects of all kinds.

This is not meant to deny that many affects are acquired — learned — nor that we should exercise the greatest care to teach a child to feel that only which will prove mentally healthy. But all learning is based on inheritance. Further, it seems necessary to issue a warning against the hasty conclusion that no affects are inherited except those which, as disclosed by careful investigation, are felt by infants. An inherited trait, as we have seen, may lie latent for years.

He who attempts to deal with pupil or patient, or even to manage himself, without studying the inheritance of the family lines lying back of the individual, does not yet know even what his problem is.

CLASS EXPERIMENT

Purpose. — To test the outcome of the six Mendelian matings.

Material. — Each student will provide himself with a dice cup and six pasteboard discs each about two centimeters in diameter. Mark two of the discs with a D on each side, two with a D on one side and an *r* on the other, and two with an *r* on each side. These discs represent possible parents.

Procedure. — Case 1 : Shake two "double D's" together several times and record results. What are the possibilities?

Case 2: Shake a D_2 and a D*r* in the same way. How do the results differ from those of Case 1?

Similarly, test the remaining cases, especially the fourth. In 100 throws (with D*r*'s), how many times do two D's come up? Two *r*'s? A D and an *r*?

Put "quick temper" in place of D and "control of temper" in place of *r* in the formulae (they seem to be so inherited) and state the possibilities.

Can a fool be born of bright parents? (D*r*'s are bright, but have feeble intelligence latent in the germ-plasm.) Dark skin is dominant over light. Can negro "blood" lie concealed in white parents?

FOR FURTHER STUDY

1. If all were healthy, there would be little or no need for physicians. If all children were born bright, would there then be any need for teachers? If all were sound-minded by inheritance, should we need to study mental hygiene? Discuss this.

2. How comes it that children born of the same parents can be so dissimilar as we sometimes see them? (Consider Mendelian cases 4 and 5, together with the great number of traits involved.)

3. A and B, two primitive men, are passing a ledge, when a tiger leaps at them. A, being alert by nature, quickly dodges; B is more sluggish and is caught. What difference will this make to posterity? From which kind of man are we descended? Have any of the other kind survived?

4. In view of what you have learned of the strength of inheritance, what do you think of the plan of "marrying a man in order to reform him"?

5. How do you account, from the standpoint of inheritance, for the fact that a person may be sane in all points (traits) but one, and in that one sadly astray?

6. How has it come about that rabbits can run so fast? What happens to those that can not run fast? From which kind will most of the rabbits of the future be descended?

7. Imagine a young woman with three rival suitors. — Show how such cases are related to the next generation.

8. Mendel (1) crossed tall peas with short peas, (2) mated the resulting tall hybrids (D*r*'s) with each other (which resulted in three-fourths tall, one-fourth short plants), and then (3) bred out pure talls, pure shorts, and some hybrids with which he repeated the second step. Explain by means of the formulae given.

9. Indians have shown a great fondness for alcohol. Do you think the alcohol caused this, or was the trait there before Indians knew of alcohol? Suppose we had universal prohibition. Would this destroy the trait of alcoholism? Which would be the better means of reform (supposing either possible), to destroy alcohol or to breed a race that has no taste for it?

10. What relation, if any, can you see between one's inheritance ("heredity") and his vocation? What relation between vocation and mental health?

11. Is a bad boy likely to be bad (or a good boy good) all through? What light does the doctrine of independently heritable traits throw on such questions?

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. Transmission of acquired characters. (Thomson.)
2. Comparative psychology of man and the lower animals. (Hopf.)
3. Eugenics and mental life. (Yerkes.)
4. Inheritance of mental traits, manual skill, etc., with pedigrees. (Davenport.)

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CHAPTER VI

The Germinant Personality

Exercise. — Following is a report of an actual case. In your judgment, what do its facts indicate?

A woman who, like her parents, was of low character, was sent, on the death of her husband, to the poor farm. While there, she gave birth to a child whom we will call Mary Smith. The father was unknown and the mother was never known to the child, for Mary was taken at once by a man and his wife into a good country home where she was accepted in every respect as one of its children. She was also received into the community on a footing of equality, and enjoyed the advantages of church, Sunday school, and social affairs. As a child, she had the respect of all who knew her. She attended school, showed good intelligence, and made a good record.

At the age of sixteen she ran away for no known reason, secured employment, and refused to return home. She lost her position through immorality, entered upon a life of shame, and now seems to be repeating the life of her mother.

Inheritance is bio-mental. — The previous chapter stated rather dogmatically that intelligential and affective traits are inherited. There is plenty of research to bear out the statement. For example, Yerkes found that savageness, wildness, and timidity in rats are inherited. Galton found his true twins alike mentally as well as bodily, so much so that, for example, a pair might have hallucinations of hearing, be melancholy and morose, think and say the same things at the same time, or even go insane at the same hour though miles apart. Many other studies point in the same direction.

How mental traits can be inherited is sometimes regarded

as a great mystery; for while we can trace a bodily, cellular connection from parents to offspring by way of the germ cells, no such mental linkage or continuum between progenitors and progeny appears. Here again, the trouble arises from a wrong view of the nature and relation of body and mind. If we regard a person as a bio-mental unit (see Chapter II), the difficulty vanishes.

What can the environment do? — First, what is environment? The immediate environment of the germ-plasm is the body that bears it. The principal environment of embryo or fetus is the uterus and body of the mother. After birth, environment is that portion of the world at large in which the individual lives and moves and has his being.

In general, environment can preserve and develop, or damage and destroy, but seems unable to create. Frances Gulick Jewett tells a story [1] of an expectant mother who, knowing that neither she nor her husband had any musical talent, determinedly spent hours every day practicing on the piano in order to produce musical ability in her unborn child. She failed. Between environment on the one hand and germ-plasm or germinant personality on the other there appears to be a great gulf fixed. All is likely to go well so long as nature alone supervises, and that means up to the time when the child is delivered into the arms of parental protection.

All's well that ends well; but there are a few sinister influences which can cross the " great gulf " referred to and prevent all from ending well. It is such influences that we wish to study, and especially those which can give rise to mental abnormality.

[1] See *The Next Generation*, p. 72.

Evidently, the germinant personality may be reduced to the status of damaged human goods at any of several points: (1) by injury to the germ-plasm, before conception, as through lead poisoning; (2) by injury during pregnancy, as when the mother contracts typhoid fever and her child is left weak in body or mind; (3) by birth injury, perhaps to the brain; (4) by physical, chemical, or mental injury to the phreno-mens after birth, as through a blow, or poison, or mental shock.

We can not here study all these possibilities exhaustively, but shall attempt to consider them, saliently and suggestively, in brief.

Racial poisons. — Under the term "racial poisons" are commonly included those substances which reach and poison the germ-plasm. Most frequently mentioned as possible or actual poisons of the germ cells are lead, alcohol, and the germs or products of syphilis. Some authors, but without proof, would list tobacco with alcohol. There is also evidence which indicates that the racial plasm may be reached and at least temporarily contaminated by such infections as tuberculosis and typhoid fever. Certainly, those who have had such diseases should not undertake parenthood until they are fully recovered.

The most common condition, without a doubt, where defective offspring cause suspicion of racial poisoning, is a germ-plasm that was of low grade to begin with. This frequently shows itself through such traits as insanity, epilepsy, feeble intelligence or affects, sexual looseness, alcoholism, and susceptibility to certain diseases. In such cases, alcoholism (for example) is not the *cause* of the poor germ-plasm, but the *effect* of it. Tredgold found a family history of alcoholism in 46.5 per cent of his cases of feeble-mindedness;

but in five-sixths of these there was also a definite neuropathic predisposition, and in most of the remainder there was a record of other morbid influences.[1]

Quite possibly, with germ-plasms as with individuals, what is poison for one is harmless for another. However, the only safe road lies in avoiding all influences that are even under suspicion of being poisonous. When the seed of life is sapped, no racial wealth is left.

Conception conditions and largely fixes the future. — It has been estimated that a pair of parents, if all their germ cells could be exhaustively combined, would be capable of producing more than 500,000 children, all different. Yet each unique one of the half million would be the negative, the " film," of a personality picture. Environment, including parents and teachers, can add nothing to it, for they can not create human nature. Environment is only the " developer."

Or, to change the figure, we may say that inheritance, as fixed at the time when spermatozoan enters ovum, is a musical instrument on which the environment is to play. It may play many tunes, and may leave many silent that might have been played; but it can play nothing that the instrument is not fitted to produce.

If there are special undesirable determiners present, the individual may suffer from glaucoma (dimness of sight and eventual blindness), or cataract, or a raving temper. If certain desirable determiners are lacking, he may be the victim of deaf-mutism, or nyctalopia (owl vision — better sight by night than by day), or color-blindness, or epilepsy, or feeble-mindedness of some kind or degree, or so-called " nerve trouble," or mental aberration of some sort.

[1] See *Mental Deficiency* (Second Edition), p. 43.

Because of current tradition, it may be well to remark, at this point, that neither the mental condition of the parents at the time of copulation or conception, such as the wish for an endowment of talent or character for the child, nor any ordinary variation of body or outer environment, is likely to reach or affect the newly conceived.

The hygiene of pregnancy. — The best course for an expectant mother to pursue is to place herself in the care of a good physician and let him do the worrying — if there is any to be done.

It would ease the minds of many if they could realize that nature is supervising the work of forming the unborn, and with almost infallible finesse. The child during gestation has been well likened to a guest in a hotel. He is not directly influenced by what the proprietor may be thinking or doing. The fetus not only has no nervous connection with the mother, but does not even use her blood directly in his circulation. The time to take anxious thought is before marriage, when germ-plasms are beginning to express their affinities for each other in courtship.

Mentally, the mother-to-be should go on living a happy, normal life, taking an interest in the world and absorbed in all sorts of agreeable enterprises. She can not mark, for good or ill, the unborn child, either by her peculiar cravings for food, or otherwise. Abnormality, if it arises at all, is likely to occur within the early days of pregnancy; and for the first week or so, the embryo is not even attached to the mother's tissues. By the time she is aware of her pregnancy, all chance to do mischief would probably be past even if mental influences could carry through. But the investigation of thousands of cases shows that they can not. Dr. J. Morris Slemons states that he has often asked his patients

whether there was any incident during pregnancy to which they could have ascribed the baby's condition had it been abnormal in any way. Even in the case of perfectly normal babies, every mother answered "Yes." One had even lost a brother by violent death.[1]

Nor can the sex of the embryo or fetus be influenced by any means known. It is fixed by a determiner at the time of conception.

Abnormal fetal development. — Where abnormal fetal development occurs, the fault frequently lies in the germ-plasm, or in what may be called a blunder of nature in conception. Some of these blunders are caused by fertilization such as normally produces twins. But subsequently, one absorbs the blood supply of the other with the result that only a remnant of the second is left, attached to or even embedded in the body of the first. However, malformations are chiefly characteristic of neurotic families, suggesting either a poor quality of germ-plasm or (a different implication of the same thing) a fetal nervous system which does not supervise well the building of the child's body.

Some of the influences suspected of being germ-plasm poisons appear also to affect the fetus directly, injuring it bodily and sometimes mentally as well. There is no doubt that syphilis can do this, and the free use of alcohol by one who is pregnant is certainly reckless. Keith says that, as malformed chicks are sometimes hatched as the result of too high a temperature, and monstrous [deformed] sea urchins or salmon because of certain salts in the surrounding solution, so we can understand how fever or a changed condition of the mother's blood may cause abnormality of offspring.[2]

[1] See *The Prospective Mother*, p. 71.

[2] Arthur Keith — *Man: A History of the Human Body*, p. 121.

Attempted abortion, whether by drugs or mechanically, may injure the fetus seriously. The use of an instrument for the purpose of abortion may even do harm to the fetal brain.

The mother of the unborn should eat normally, but need not " eat for two." Any attempt to keep the fetus small by restricted nourishment, or to keep its bones pliable by excluding mineral matter from the diet, may damage both mother and child. Very unnatural cravings and the eating of repulsive things are usually the mark of an unsound mind on the part of the mother.

In general, the poorer the germ-plasm, the slighter the cause necessary to produce defect either before birth or after.

Natal troubles. — Many are alarmed at the flattened head of the new born, thinking that it indicates mental defect. Most babies are born head first, and the pliable skull yields to the pressure of the birth canal. Nature will right the matter without aid. In cases where the head issues last, it is usually of approved shape from the start, as originally formed.[1]

Where there is very unusual labor at birth, there may occur in the infant, in rare cases, asphyxia, or hemorrhage, or some degree of paralysis resulting from a blood-clot on the brain, but seldom is there any mental impairment. Tredgold reminds us that Samuel Johnson " was born almost dead, and did not cry for some time." The proper use of instruments can meet with no objection. In fact, physicians assure us that birth instruments have saved more lives than any other appliance the surgeon uses.

[1] It should be noted, however, that some babies born by Cæsarian operation have flattened skulls. Evidently there is some head-shaping influence at work other than the pressure of the birth canal.

Both mother and child are in danger of germinal infection at birth, but both can be perfectly protected by previous freedom from disease, combined with proper medical care. The mother is wounded, and should be treated as one who has an open wound, but one which is natural, and which nature will heal. The child is in danger from any germs that may be present, such as those of tuberculosis, syphilis, or gonorrhea. Tens of thousands of babies in the United States have been rendered partially or totally blind by gonococcus microbes (those of gonorrhea) entering their eyes at birth. These microbes find their pasture grounds on the moist tissues of the body, and scar the surface of the eye so that light can not pass through it.[1]

Nature of the new born. — Certain reflexes, such as heart beat, are active before birth, and others, like breathing, begin immediately at birth. The senses are all ready to respond to stimuli, although some of them, especially vision, do so crudely. Color vision and fixation for distance may require, for their development, a year or more. Certain psychologists report that they have observed the budding of memory at five months, of imagination (associative power) at eleven months, and of thought at one year.

As students of mental hygiene we are especially interested in the affects. Watson, who made a most careful experimental study of the emotions of infants, is impressed with the fact that we have commonly credited them with much greater variety of emotional response than they actually show. He reports the fundamental emotions observed as

[1] Children in such cases are not "born blind." In fact, gonorrheal blindness can be prevented by cleansing the unopened eyes of the new born with boiled water and then dropping from a clean dropper two drops of a one per cent solution of silver nitrate between the separated eyelids. This does no harm if not needed, but kills the gonococci if they are there.

three, namely, fear, rage, and "what, for lack of a better term, we may call joy or love." Darwin discovered, in an infant of four months, four emotions: anger, fear, tenderness, and amusement or comic emotion. Watson states that when the fundamental emotions "go wrong or are poorly controlled," there is the greatest difficulty in proper habit formation, and concludes that the first few years are "all-important" for the shaping of the child's emotional life.[1]

Laws of development. — The chief business of a child is to *grow*. Tyler finds that every organ goes through three stages of development: (1) a stage of pure growth, (2) a stage of growth-with-exercise, and (3) a stage of approaching maturity, when severe training, increased endurance, and productive work are to be expected. He adds the important statement that while most of the organs of the infant and young child are attaining the second stage of development, "much of the muscular system and *a still larger part of the brain are in the first.*"[2] The last statement is italicized here because it merits special consideration.

If we add to this law Jennings's "rule of attention," we shall have in a nutshell the essentials of child development. The rule of attention is that an organism, like a mind, *can do well but one thing at a time*, and must be let alone at it. For example, if a child must use his powers to resist a high degree of heat, or of cold, or to master lessons, or to worry because of fear, he can not as an organism attend to his growing.[3] Rousseau must have had some intuition of this when he prescribed for Émile a concentration on physical development from age zero to age five, on sense training

[1] See *Suggestions of Modern Science Concerning Education*, pp. 51–101.

[2] John Mason Tyler — *Growth and Education*, p. 56.

[3] Herbert S. Jennings — *Suggestions of Modern Science Concerning Education*, p. 23 ff.

from age five to age twelve, on intellectual education from twelve to fifteen, and on social education from fifteen to twenty. Whether Rousseau was right or not, we can, I think, safely lay down this rule: The education of a child at any age should be concentrated on what that child's bio-mental forces are centered on at that period.

Essentials of child culture. — The needs of a child before birth and after are much more nearly identical than most of us have probably supposed. His requirements before birth can be summed up under the following heads: *protection*, *nutrition*, *temperature*, and a proper *surrounding medium* in which to grow. If we add to this list one entry, that of *activity*, with a proper interspersal of *periods of sleep*, we shall have catalogued his post-natal requirements.

At birth, he begins his personal tilts with the world at large, and here the environment has its final and lifelong chance to preserve or destroy. But every joust, during the early years, is under the direct supervision of his parents, and they should feel this responsibility very keenly. His first need is for protection against physical, chemical, and shocking mental agencies. A blow or a bad fall or the poison of certain diseases may so injure his brain that neither intelligects nor affects nor behavior will ever be normal. Mental stimuli may so drain and shock his kinetic system as to destroy nerve cells — and there is no replacement. Social nutrition, as we may call it, is a problem which is so poorly solved, even in the United States, that we have hundreds of thousands of undernourished children when our farmers are officially advised to produce less wheat. Temperature is a haphazard affair in most homes, and still in many schools. The medium of the germinant personality should change at birth from the amniotic fluid and darkness to pure air, with

many daily hours of light, first suffused and dim, and later shot full of sunshine. Too often, even this is not provided. Before birth, there was also a certain degree of activity, *prompted by growth* (Tyler's Stage Two. See page 127). From this we should take our cue as to the kind and amount of activity, bodily and mental, that is best for several years after birth. It should be that which is initiated, not so much by tasks assigned as by the inner tendency to grow, bodily and mentally.

As embryo and fetus, the child must go through certain phases, and these can not be hastened by artificial interference. It is lucky that prenatal development is not graded as school life is, or some mothers would want their unborn children to skip grades to bolster up the family pride. Similarly, there are stages of development after birth, and these should not be hastened. It is better for the child to "just grow," as Topsy did, than to have too many working at him in the effort to make him, and make him in a hurry. We used to boast of old wine; and products long in the making and curing we still regard with high favor. The time will come when we shall take a similar pride in a reasonable protraction of the period of our children's development, and possibly in the fact that they were subjected to 49,000 different tests, as some of our automobiles are, to make sure that at every point all is just right.

CLASS EXERCISE

Discuss and list the chief developmental needs of plants; of the lower animals; of human young.

In general, what traits have animals that plants do not have, and what corresponding needs?

How, if at all, do children up to school age differ from the young of the lower animals in traits or requirements for development?

FOR FURTHER STUDY

1. Tower applied heat to the bodies of potato beetles when they were about to produce eggs, with the result that another type of beetle was produced, a type which bred true, that is, continued to reproduce itself in successive generations. What do you infer from this? Was the germ-plasm affected by the heat?

2. The ovaries of a black guinea pig were grafted into the body of an albino. Thereafter, the albino produced black offspring only. What does this appear to show?

3. Tredgold finds it more common for the ancestors of the feeble-minded to have suffered from such conditions as insanity, epilepsy, and other related abnormalities than to have been actually mentally deficient. Suggest an explanation.

4. An excellent young man of twenty became so incorrigible and so wild in his behavior that he had to be placed in an asylum. This was the result of typhoid fever, which had affected his brain. Why are not all typhoid patients affected in this way?

5. Mothers who are happy and care-free are likely to nurse their babies efficiently, whereas those who worry often have trouble with lactation. Show how the relation of mind and body is involved here, and trace possible consequences.

6. Pasteur showed by experiment that cold causes a lessening of resistance to disease germs. Show the relation of this to the catching of a cold, and to other diseases.

7. An older brother had to spend a great deal of time taking care of three or four smaller children. Now that he is grown and married, he does not want children of his own. Is this present trait probably inherited or acquired? How is it that some older children enjoy taking care of the younger, and when grown are still fond of children?

8. There is a story told of a boy who became a sailor because his mother kept on the wall a sea scene. Is it likely that his sailor trait would have lain dormant if the picture had not been there? What likelihood is there that we could control the future vocations of boys and girls by skillfully exposing them to well-selected pictures?

9. We often hear the remark that "It is no worse for a woman to drink than it is for a man." Have you found anything in this chapter which indicates that the remark is untrue? Consider the danger to the fetus as compared with danger to the germ-plasm.

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. History and inheritance of the human body. (Keith.)
2. The unborn. (Lamson.)
3. Hygiene of pregnancy. (Slemons.)
4. Inheritance and early growth. (Jewett.)
5. Inheritance and character. (*Eugenics*, etc., Ch. VII.)
6. Nature of the new born. (Jennings, Watson, *et al.* Norsworthy and Whitley.)
7. Prenatal as related to postnatal growth. (Tyler, Ch. III.)

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CHAPTER VII

Fatigue, and the Psychoneuroses

Exercises. — Describe the behavior, and if possible the mental state, of any person you have known who was said to be "nervous." Tell whatever you can of the causes, treatment, and cure or other outcome of the case.

2. A soldier who had been made mentally ill by the sight of much bloodshed and shattering of human flesh attempted, after discharge, to serve as salesman for a meat company. When he entered a butcher shop, the sight of red meat would bring on an attack of his former illness. Explain as fully as you can in phrenomental terms. In particular, what neurograms were reactivated by the red meat? Have you yourself ever experienced anything that is the same in principle?

Our next quest. — We have traced the genesis of the personality and noted the dangers that beset it, from its germplasmic inception to its infantile independence. We may even say we have sketched the genesis of mental health, in a measure, in working out the principles of the hygiene of mind. We want now to see what are the chief paths of deviation, the most common kinds of mental illness. The best bodily hygiene projects for us a picture of physical disease in order to show us the better how to avoid it. Mental hygiene can profit by the same plan, using an understanding of mental troubles as a means to health.

Accordingly, we shall take up at this point a study of mental diseases. These diseases may be roughly divided into two classes, the less serious and the more serious. The less serious are known as the psychoneuroses. The more

serious are commonly called psychoses and insanities. In this chapter, we shall deal with the psychoneuroses. Our present theme, then, is " nervousness " and its related ills — a plague which has as many forms as it has victims, and which is said, on good authority, to force upon our physicians fifty per cent of their practice.

What is a psychoneurosis? — " Psycho " means " pertaining to mind," and a " neurosis " is a " nervous condition." A psychoneurosis, then, speaking roughly, is a condition of nervousness which has a mental cause.[1] The mental condition, however, is not such as to constitute insanity. The individual, while his psychoneurosis lasts, will be peculiar in some respect, and may be conscious of the peculiarity but unable to control it. Otherwise, he is " all right," that is, generally sane. So far as the nerves — those bundles of white fibers that run throughout the body — are concerned, there is nothing the matter with them; for they are little more than biological wires whose work is to carry impulses, and they can scarcely be fatigued or, by any mental means, made ill. The peculiar behavior which gives evidence of abnormal condition, such as " jumpiness," or an apparently paralyzed limb, takes different forms according to the kind of psychoneurosis. The type of psychoneurosis which any individual has, if he has any, depends largely on his inheritance.

Mental illness as related to inheritance. — Whether one shall be well or ill depends primarily on his inborn traits. Now traits are distributed among the general population

[1] A condition of nervousness may have a physical or a chemical cause. A patient who burst into tears frequently during ordinary conversation and was otherwise unable to control himself, was brought into this state by lead poisoning contracted during his work as a printer in an insanitary shop. His trouble was a neurosis but not a psychoneurosis.

according to a well-known law which is commonly represented graphically in the form of a curve frequently referred to as the " curve of normal distribution " (see Figure 11), or more briefly, the " normal curve." Teachers are likely to come into contact with it through a study of the expected distribution of the grades earned by their pupils. But every human trait is thought to be distributed in the same manner.

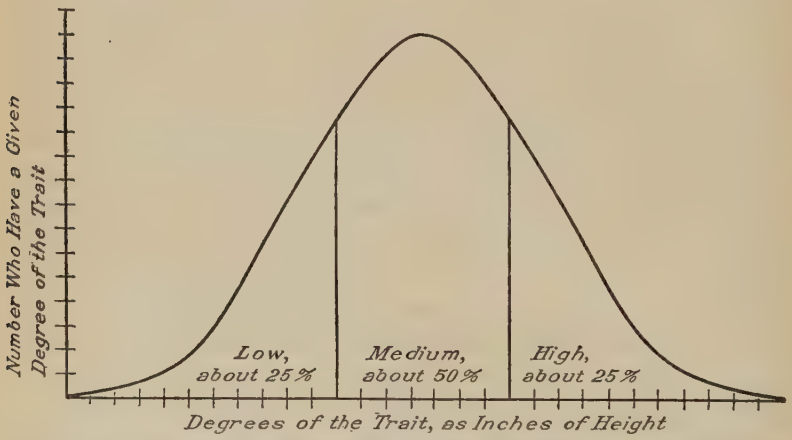
Number Who Have a Given Degree of the Trait
Low, about 25%
Medium, about 50%
High, about 25%
Degrees of the Trait, as Inches of Height

FIG. 11. — The "curve of normal distribution," showing how traits are distributed among the general population.

For example, if we measure and plot the degrees of any trait, such as height, as found in a thousand men, letting the base line from left to right represent low-to-high degrees of the trait (shortness to tallness), and letting the height of the curve above any point represent the number of times this degree of the trait is found (the number of five-foot men, of five-foot-one men, etc.), the result will be a curve like that of Figure 11.

The result shows that roughly about 50 per cent (included under the big hump of the curve) have a medium degree of

the trait, 25 per cent being distributed among the higher ranges and 25 per cent among the lower. One or two in each hundred will stand very high in the trait and one or two will rank very low in it.

Constitutional psychopathic inferiors, and psychoneurotics. — We are accustomed to the use of this normal curve in making educational measurements, but not at all accustomed to drawing conclusions from its application to those traits on which depends the success of our moral training and our mental hygiene. Let us take a case. Johnson is of the opinion that the trait of *fear* forms the basis of "moral impressionability." [1] Applying our curve, she classes the fearless and near-fearless, under the left end of it, as "constitutional psychopathic inferiors." They may be young or old, intelligent or foolish, and are often pleasant to meet. But "they are motivated almost entirely by the desire of the moment. Their inhibitions are weak and evanescent, although impulses are not apt to be strong, for their energy, being constantly discharged, does not become exaggerated by repression and summation. They, of course, know no fear, and constantly rush in, often enough, 'where angels fear to tread.'" They "forget the past," they are "bad citizens," and they "do not improve."

The constitutional psychopathic inferiors include many such characters as the hobo, the sex offender, the pathological liar — who lies for no far-off object but for the pure pleasure of fabricating — and various types of chronic criminal. As a muscle might be left without an antagonist, so a brain center may be left with nothing to oppose, inhibit, control it, the result being that every time it is innervated

[1] "The Constitutional Psychopathic Inferior: A Problem in Diagnosis," by Alice E. Johnson. *The American Journal of Psychiatry*, January, 1923.

it discharges in action. We shall err, however, if we set down fear as the only inhibitor.

At the other end of the curve are those who are " so fearful as to be self-effacing," and who are accordingly classed as psychoneurotics. But again it must be insisted that fear is not the only emotion which should take our attention. As fear is not the only inhibitor, so it is not the only cause of a psychoneurosis.

To sum up: Whether or not Johnson is right in all the conclusions she draws from her study, the effort to apply the normal curve to the distribution of inherited affects among the general population is a move in the right direction. As we have learned to expect a certain per cent of those who represent the extremes of intelligence, so we must expect a certain per cent who are extreme in their affective inheritance, and we must deal with each type accordingly.

Mental illness as related to emotion. — Evidently, what one feels or fails to feel has much to do with his character and his mental health. In the stream of transmission, the affects are a mighty power, originally designed by nature for the protection and welfare of their owner. Sherrington found that the strongest reflexes, dominant over the others and most potent in reaching the final common path of action, are those which are characterized by strongest affective quality. But since the affects are so powerful, they may also do much damage. The particular kind of damage we are most concerned with at this point is that of *wastage*.

When the primitive lower animal or man acted most vehemently, he always felt the thrill of some emotion, as fear, rage, or sexual passion. At the same time his energy, both of body and brain, was poured out, as Cannon puts it, like that of a nation at war. Modern man still receives a

multitude of stimuli to emotions, many of which he is not permitted to act out. He can not at pleasure run away from danger, or fight, or make love. Nevertheless, his kinetic system, when stimulated, pours out energy as if he *were* doing these things. To this extent, emotion is a rehearsal of primitive action. Crile goes so far as to say that fear is a phylogenetic flight, love is a phylogenetic copulation, and anger is a phylogenetic fight.[1] That is, one who undergoes any such emotion, as, for example, extreme fear, is spending his energy much as our cave man ancestors did when they not only felt fear, but also made desperate efforts to save their lives.

From this we should expect that one who is kept under the consuming influence of an emotion for a prolonged period may find himself so reduced in nervous energy and control that he can no longer resist a shock or maintain his composure under stimulus; and that is what happens. The effect is still more marked if the emotion is one which the individual, because of shame or other reason, continually struggles to inhibit, for then he fatigues his integrative centers also. If we glance through McDougall's list of major instinct-emotions (as given in Chapter III), we shall see that the two which answer most aptly to this description are sexual lust, which is vitally linked with the preservation of the species, and fear, which has so much to do with the preservation of the individual. Accordingly, it is not difficult to understand why some psychiatrists should trace so much mental illness to sexual causes while others lay an equal emphasis on fear. Although one or the other of these two instinct-emotions, sexual lust and fear, is no doubt prominent in many cases of mental difficulty, the conclusion of this present study is that any long-continued emotion,

[1] *Origin and Nature of the Emotions*, p. 76.

especially if accompanied by efforts to inhibit that emotion and maintain integration for duty, may reduce its subject, fatigue him into nervous illness. Deep disgust for a situation may do this, or severe, long-lasting pain, or general excitement, or passion for display or for mingling in society, or anger, especially if the anger is accompanied by an exaggerated feeling of subjection.

Mental illness as related to fatigue. — Fatigue is reduction of energy to the point of inefficiency in action. Both brain and muscle cells may be so reduced, and the fatigue of either affects the other somewhat. For our present purpose, we are of course most interested in the reduction of the brain batteries.

MacCurdy, in his extensive studies of war neuroses, found that the first sign of approaching nervous difficulty, and "perhaps the most important of all the factors that unite in the production of an anxiety state, is fatigue." He reports the case of a lieutenant of thoroughly normal make-up, a splendid soldier and generally "devoid of fear," who developed all the symptoms of an anxiety neurosis through fatigue alone.[1] Frequently, among these men, there were suggestions of disturbance of the thyroid. Many patients, if allowed to rest when it was evident that a neurosis was coming on, quickly recovered and returned to duty. Prolonged progress of the nervous condition, however, meant that there would be no return except after long treatment. This again corresponds to the condition of fatigue; for after the Nissl substance (a stainable substance apparently essential to the action of the nerve cell) is greatly reduced by emotion or exertion, weeks or even months may be necessary to bring the brain cells back to normal.

[1] John T. MacCurdy — *War Neuroses*, p. 44.

Putting such facts along with the statement so often made by psychiatrists, that psychoneurotic patients are quite usually extemely sensitive and self-centered, my conclusion is that the fundamental difficulty in most psychoneurotic cases, aside from such inherited weakness or unhygienic training as may lie back of them, is fatigue of the integrative centers. The " rest cure," as we should expect, is one of the most efficacious treatments known.

But of course fatigue may also be general. Such a condition seems to be present in what Dr. Myerson has described as *anhedonia*.[1]

Anhedonia. — Anhedonia means, literally, a condition without pleasure. It is a complex of symptoms found in many mental diseases, and has two outstanding characteristics: (1) loss of pleasure in the basic functions of life, and (2) spread of excitement. Man ordinarily desires, and is satisfied by, food, drink, sex pleasures, rest, and the feeling of energy. In anhedonia, food may not only rouse no desire and give no pleasure in eating, but may cause disgust, nausea, and even vomiting. There is a corresponding lack of desire for and satisfaction in sex pleasures and sleep. The central symptom is low feeling of energy: the patient can not concentrate, and lacks interest in life and its purposes. This may lead to a feeling of *unreality;* for reality, as Myerson explains, is not so much intellectual as affective. He evidently agrees with Royce, who defined the real as that which answers our purpose. The anhedonic is in danger of having no purposes.

The second chief characteristic, spread of excitement, is suggestive of the juvenile condition, in which nervous im-

[1] Abraham Myerson, in the *American Journal of Psychiatry*, Vol. II, No. I, pp. 87–103.

pulses are not yet, as in the adult, directed into definite channels according to their origin or nature, but go thrilling throughout the whole system. A child "laughs all over and weeps with his entire body," thrills at every point with excitement as you make him wait for your head to appear round the corner, or open the box of candy, and so on. But whereas in the child this is all accompanied by a feeling of happy vigor, in the anhedonic the spread of excitement becomes disorganized and extremely disagreeable. Noises "almost make him sick," he can not sit still in concert or theater, may become confused in a crowd, or may appear dizzy, as if from rapidly moving stimuli. The making of choices becomes difficult. The explanation seems to be that the stimuli which come in can not be attended to in a regular and orderly way, and diffused and confused excitement is the result.

Anhedonia may occur with or after various infectious diseases, follow surgical operations or pregnancy, mark the sexual change of life (menopause in women and senium in men), appear as a reaction to shocking events, stand as a preliminary to more serious mental diseases, or may develop in idiopathic form, with no other noticeable cause than the constitution of the patient. One important condition frequently noticeable is that of sleeplessness, often developed first as a result of mental suffering and then continuing as a habit after the suffering has ceased. It is even suggested that we can divide all people into two classes, the good sleepers and the poor ones, with corresponding types of health.

Concerning anhedonia, one feels like offering the comment that here appears to be, not only a certain fatigue of the integrative centers, but of those centers also in which the major

instincts have their seat. The " heart " of the brain is reduced in vigor.

The psychoneuroses — *Neurasthenia.* — The principal psychoneuroses are neurasthenia, hypochondria, hysteria, and psychasthenia. Let us make a brief study of each.

Neurasthenia means weakness of nerves. As before stated, the weakness is really in the brain, and may either be inborn, or may develop as the result of fatigue and overstrain. We all have this disease in mild form when we work past our limit of strength; so we can easily understand it. The patient is likely to be irritable, weak in energy-feeling, easily fatigued, and of course unable to concentrate his attention and stick to his task. As indicated, some of the symptoms of anhedonia are to be expected, especially the spread of excitement. Trifles get on his nerves, especially such trifles as suggest the unbearable conditions that brought on the trouble.

An exaggerated form of this illness, which appears under extreme conditions, is the anxiety neurosis sometimes developed by the soldier at the front. He may be subjected to shell fire, perhaps buried alive and rendered unconscious. He becomes fatigued and " jumpy," starting at noises. Sleep fails him, and in his half-waking state he has hypnagogic hallucinations; that is, he sees visions of fighting and the like, yet is not afraid of the visionary specters, being aware that they are all unreal. He tries to conceal or inhibit his waking fear, and so increases his fatigue. A horror of war comes on, discouragement sets in, the nightmare of battle haunts him in sleep; and he may wish for death, may court it by undue exposure to danger, or may even commit suicide.

Some of the habits he has learned under such terrible

tension may remain with him after the tension is removed. Nervous bonds may have been so thoroughly formed that he will exhibit tics — contortions of the face, or peculiar movements of the limbs — which originated as responses to the conditions of war. A sound like that of artillery or the sight of bloody flesh may again flood an old neurogram and cause him to " go wild."

Hypochondria and hysteria. — Mr. L., a farmer, thought for twenty years that he was going to die. He had sick spells, developed symptom after symptom, and lay in bed a great deal. When his son's wife bought a baby carriage, his anger at such a waste of money on a useless innovation made him ill for two weeks, brought him to bed, and into the doctor's care. Although he never showed much concern as to his wife's welfare, he worried for years about what might happen to his old horse when he, its master, should have passed away. As we should expect, he got better care than either his wife or his horse, and so outlived them both.

Here was poor integration. The self centers (as they may be termed) were so sensitive and functioned so feverishly that they based an illusion of disease, or possibly a delusion, on trifling bodily symptoms. The central government of the brain was weak, and the form of disorder which resulted depended on the balance of power among the lower centers of that commonwealth of neurones, and on the strain to which they were subjected.

The hypochondriac is poorly integrated, is the victim of fear or of some other affect, and is self-deceived. At any rate — and this is usually the meaning of " self-deceived " — either he has not introspected impartially and cultivated out-minded concentration, or he has not recognized and accepted real conditions and actively met them.

Of the hysteriac also it can be said that he is poorly integrated, is the victim of fear or some other affect, and is "self-deceived." He, too, is afflicted with a disease which does not really exist, but is brain-built only. But, whereas the hypochondriac *begins* with symptoms, the hysteriac, as we may say, *ends* with them. Typically, after some exciting, fatiguing experience, he finds himself blind, or a deaf mute, or paralyzed. Usually there is at first a period, at least a brief one, of unconsciousness, followed by this subconscious complication of a contracted arm that can not be extended, a paralysis, an area of anesthesia, or what not. The form which the complication takes depends on the patient's previous experience and hence upon his brain paths; it often reproduces some difficulty, such as loss of voice, which he has had before in nonhysteric form.

Probably most of us commonly think of hysteria as consisting of paroxysms of alternate laughing and crying which, under excitement, may attack anyone. But such laughing and crying are a mark of mania rather than hysteria, and by no means all are subject to this psychoneurosis. In persons of good intelligence and high ideals, who desperately hold themselves together under strain until a breaking point is reached, the psychoneurosis that is most likely to appear is neurasthenia. Hysteria commonly marks a lower grade of intelligence, great suggestibility, and low ideals especially. In fact, Rosanoff thinks the essential feature of the hysterical personality is a *character defect*, and classes the hysteriac as a near criminal, too indolent to be a real one. He finds no essential difference between hysteria and that selfish simulation of disease known as *malingering*.[1]

At the same time, we must not think the hysteriac plans

[1] Aaron J. Rosanoff — *Manual of Psychiatry*, pp. 308, 316.

his disability as a burglar plans a burglary. His weak nervous system is the victim of a stoppage or inhibition at some of its synapses, an obstruction which may often be removed by the word of a faith healer, or by the winning or losing of a law suit in which the patient was suing for damages because he found himself disabled in some way after a wreck or a fright.

Psychasthenia. — Psychasthenia is a weakness of the psyche, or mind, as compared with neurasthenia, which we have already studied as weakness of the "nerves." In other words, psychasthenia usually shows itself more purely as a phreno-mental state and less as tremulous behavior. Psychic weakness appears in the form of peculiar fears, doubt, impulsions, and aversions, especially those of a persistent, anxious nature known as obsessions. Here are found the phobias — agoraphobia, or fear of open places, claustrophobia, or fear of closed places, and an unlimited number of others. Sometimes there is a weak and fantastic kind of intellectual obsession as to whether the self or the world exists, or is real. Manias may appear, such as kleptomania, in which the patient can not prevent himself from stealing even that which he does not need; or arithmomania, an impulsive desire to count things; or pyromania, the desire to set fires. In fact, the variety of symptoms is such that it appears the patient may feel constrained to do, or to refrain from doing, practically anything.

Here, especially, we are reminded of a country whose central government is weak, at least temporarily, and throughout whose territory the distribution of what power and restraint there are left is desultory, so that one subordinate seizes the reins and keeps pushing for a certain type of action, or another may be equally determined to block the doing of

that which he can not endure, while others are overwhelmed and act only fitfully and spasmodically if at all.

As we review the list of the psychoneuroses, we are struck by the general similarity of their larger features, and by the fact that they shade into each other. We are inclined to agree with those psychiatrists who dislike to separate diseases by sharp boundary lines and distinct names, but who aim primarily to study the "syndrome of symptoms" in any case, to consider what must be going on in the corpo-mental person, and then to decide what should be done about it.

CLASS EXERCISE

Let each report a case or cases in what may be termed "the psychopathology of everyday life." This includes those cases of mild mental illness which we can observe from time to time in ourselves or in those about us. The instances given may illustrate fatigue, anhedonia, mild forms of neurasthenia, hypochondria, hysteria, or psychasthenia.

Gather as many instances as possible from childhood. In each case, state, so far as possible, the cause, what appears to be wrong with the stream of transmission, and what the outcome was — especially whether a cure was found.

Discuss freely, applying the laws of learning and tracing the formation of neurograms.

FOR FURTHER STUDY

1. Do you think the lower animals ever have psychoneuroses? Why or why not?

2. If one wanted to throw himself into a psychoneurosis, what would be the most direct and certain way of doing it? What light, if any, does this throw on the genesis of the psychoneuroses?

3. It is often stated that health is natural and disease unnatural. Have you found any states of mental illness which can be regarded as natural to people of a certain kind of inheritance? Discuss.

4. Explain why one tends to feel kindly toward the mail carrier when he brings what is wanted and resentful when he does not. Why does a gambler praise or blame those passive instruments, his dice?

5. Which temperament, or temperaments, should you expect to be most susceptible to psychoneurosis? Why?

6. Stuttering is evidently due to a blocking of certain synapses used in speech. It can usually be cured in a few weeks or months by reëducation. Can you see any similarity between this and certain psychoneurotic difficulties?

7. It is found that the anxiety-stricken soldier, after a good talk with his physician about his fear, usually improves. Show the saving in energy as compared with keeping the fear inhibited and secreted. What reason is there why we should "introspect impartially and cultivate out-mindedness"?

8. Fear, anger, injury, muscular exertion, etc., carried to an extreme, cause increased acidity in the blood, and increased acidity reduces the action of the upper brain centers. Show the possible relation of these facts to the psychoneuroses and related difficulties.

9. Crile states that animals which have protection by means other than fighting, as the skunk is protected by its odor and the turtle by its shell, feel little or no fear and are much less susceptible to shock by trauma than are other animals; also, that animals which have no natural weapons for attack feel no anger. Trace the probable effects, individual and racial, if man felt neither of these emotions.

10. One author states that hypnosis is simply hysteria artificially brought on; that is, the hypnotized subject can by suggestion be paralyzed, made blind or deaf, etc. In each case, what has happened to the control usually exercised by the upper brain centers? What are the lower brain centers probably doing?

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. Bodily changes in fear, etc., as related to mental hygiene. (Cannon.)

2. Further applications of the curve of normal distribution;

for example, to each of the instinct-emotions listed by McDougall. (See Chapter III of this book.)

3. A study of war neuroses. (MacCurdy.)
4. Everyday examples of the psychoneuroses. (Cabot, Ch. IX.)
5. Clinical psychoneurotic and related cases. (Kraepelin, Chs. XXV, XXVII, XXIX, XXX.)

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CHAPTER VIII

Psychoses, Insanities, and Related Diseases

Exercise. — Note the characteristics of the two samples of discourse given below and then compare the two. Which patient has the more serious ailment? Why do you think so?

The first illustrates " flight of ideas " as found in a case of mania :

> Now I want to be a nice, accommodating patient; anything from sewing on a button, mending a net, or scrubbing the floor, or making a bed. I am a jack-of-all-trades and master of none! (Laughs; notices nurse.) But I don't like women to wait on me when I am in bed; I am modest; this all goes because I want to get married again. Oh, I am quite a talker; I work for a New York talking-machine company. You are a physician, but I don't think you are much of a lawyer, are you? I demand that you send for a lawyer! I want him to take evidence. By God in Heaven, my Savior, I will make somebody sweat! I worked by the sweat of my brow! (Notices money on the table.) A quarter; twenty-five cents. In God we trust; United States of America; Army and Navy forever![1]

The second sample shows the incoherent speech of a dementia precox patient :

> What liver and bacon is I don't know. You are a spare; the spare; that's all. It is Aunt Mary. Is it Aunt Mary? Would you look at the thing? What would you think? Cold cream. That's all. Well, I thought a comediata. Don't worry about a comediata. You write. He is writing. Shouldn't write. That's all. I looked out the window and I didn't know what underground announcements are. My husband had to take dogs for a fit of sickness.[2]

The more serious phreno-mental diseases. — We can readily sympathize with the unduly fatigued, the anhedonic, and the psychoneurotic, for we have had touches, at least, of these troubles ourselves. We take up now a group of

[1] From Aaron J. Rosanoff's *Manual of Psychiatry*, p. 50. [2] *Ibid.* p. 51.

more serious ailments, those commonly included under the term " insanity." " Psychosis " is a word used by some to indicate any more purely mental (and less physical) type of mental ailment than those classed as insanity — the type that is likely to be briefer, less serious, and more favorable in prospect of recovery.

There is a tendency to avoid the terms " insanity " and " alienation "; but although it is difficult to give them a definite meaning, it is also hard to dispense with them. Perhaps we can drop the reproach that has attached to them and still keep the terms. Cabot lays down, as a test for sanity, the matter of practical conduct. When a person becomes violent, when he " gets beyond any rational control, even though his symptoms are the same as before, then he is insane."[1] With Forel, the question is whether the patient has insight into his own abnormality. Owing to his disease, the world about and other people impress him differently than when he was in a normal condition. If he attributes this change to them and not to himself, he is insane.[2] Hollander thinks that the difference between sanity and insanity consists in the degree of self-control exercised, and defines insanity as

> . . . a state of derangement, disease, or defect of the brain, causing a disordered action of the mind and putting the subject into a condition varying from his normal self and frequently out of relation to his environment.[3]

These tests enable us to appreciate the meaning of " alienation ": The individual has become an alien, a stranger to the understanding of his own condition, to his own previous

[1] Richard C. Cabot — *A Layman's Handbook of Medicine*, p. 239.
[2] August Forel — *Hygiene of Nerves and Mind in Health and Disease*, p. 157.
[3] Bernard Hollander — *In Search of the Soul*, Vol. II, p. 223.

habits, and to the ways of orderly social intercourse. But of course this strangeness to self and to society may exist in varying grades of seriousness.

Once more, then, we may conclude that we all have much in common with the mentally ill. In fact, Beers says it would surprise and perhaps annoy some of the sane if they realized "how slightly many of the [insane] patients differ from their more fortunate brothers at large." Our best key to the understanding of the insane lies in our dominant affects, especially our moods, and in our imagining and thinking; for in every serious case either the affects or the higher associative processes, or both, must have suffered aberration.

Dominant affect as key to mental condition. — The doctor's customary question, "How do you *feel?*" is one of the most searching and revelatory that we can put to any personality which we wish to understand — including our own. Running through our list of major emotions — fear, disgust, anger, elation, etc. — we are likely to find, in each individual, one or a few of them recurring so often as to fix the mood, or moods, that are characteristic of him, and which have much to do with determining the general nature of his behavior.

As this must be a brief treatment of a large theme, let us merely suggest the contrast between what we may call the up-moods and the down-moods, as a rough introduction to the understanding of mania, melancholia, and related conditions. In our up-moods we have a feeling of power, courage, and resistlessness — we "feel like a bull moose." Ideas, suggestions, plans, and impulses to act on them, may come thick and fast. We indulge in breezy letters and conversations which we afterward, perhaps, regret, and we possibly commit a few breezy acts of a more public nature — do

" stunts," make jokes, etc. — only to fear later that our dignity has suffered.

In our down-moods we are poor worms and miserable sinners, hesitating to stake a claim on our own souls. Ideas may be few and far between, and those that do come are black. Action is sluggish, or indefinitely postponed, or spasmodic and desperate.

The manic-depressive psychosis. — The manic-depressive psychosis might better have its title reversed ; for the depression comes on first, and is so marked a symptom that some have proposed to name the disease " circular stupor " — the term " circular " indicating that depression and elation alternate repeatedly.

The disease approaches rather typically during youth, appearing as more or less serious depression, with later vacillation, often rapid, between the down-mood and that of exaltation. The depressed stage has been described as " exaggerated blues." Its outstanding characteristic, however, that which seems to underlie all else, is *reduction or absence of affect.* And as feeling is the motor of the mind, everything else, such as thinking and acting, slows down when that does. The patient usually has his orientation, that is, he knows who and when and where he is and will probably have no delusions. He *can* think, even to the extent of doing arithmetic problems, perhaps ; and he *can* act ; but he will do neither unless stimulated, and may stand or sit for hours, or lie in bed for months, scarcely moving. Why act if you want nothing? Sometimes, however, the subject becomes so despondent that he wants death, and may seek it by suicide. It appears significant that during the stage of depression he is likely to lose weight.

When avoirdupois increases and the dawning smile appears,

mania may come on. The mental motor races, perhaps, causing "flight of ideas" and "press of occupation," but all is incoherent, for there is no goal and no aim. If the individual remains outside an asylum, he may be like the character of whom the novelist says, "With our hero, to think was to act." Many such "heroes" follow their impulses, in love, or business, or elsewhere, to the depths of ruin.

Related psychoses, marked not so much by mania as by depression and bewilderment, perhaps with delusions and hallucinations, are the exhaustion psychosis, coming at the close of a disease, and the reproductive, or puerperal psychosis, which occurs in connection with childbirth and related functions. The outlook for recovery is excellent in both these cases; but a similar situation may bring on a recurrence of the trouble.

Melancholia. — Though not recognized by all psychiatrists as a separate type of disease, melancholia differs from the depression above described in that the melancholiac is *apprehensive* and quite commonly has "delusions of sin," perhaps convicting himself of having committed the unpardonable sin. The difficulty usually develops gradually out of a natural trait of melancholy, coming on typically at the time of menopause in women and the senium in men. About one-third of the cases recover. Hollander thinks that apprehensive, fearful depression has its seat, not in the brain as a whole nor in the frontal lobes, but in the central parietal area. He gives cases in which melancholic depression has been caused by injury to that region and cured by operation.

Paranoia. — Hollander would have us add to our list of instincts that of suspicion, which he locates in the temporal lobes. As to its existence, at least, he is probably correct. The paranoiac commonly begins with suspicion. Some one

has wronged his very important self, or balked his plans, and is now following him up with a systematic and devilish campaign of persecution. Gradually the delusion grows, but his self-importance also expands as if to make compensation and brace him up internally, until a delusion of grandeur perhaps accompanies that of persecution. Apparently, his self centers are overworking. He is a highly important individual who may " law " his neighbors and feel that he can swing mighty influences into action. While the paranoiac sometimes becomes dangerous to others, he usually shows, aside from what has been described, no great abnormality of conduct, and no marked emotional disturbance such as is found in mania or depression. He is not likely to recover.

Foral speaks of congenital paranoiacs who show a tendency to delusions of persecution and grandeur even from childhood. There are all grades, from the widely abnormal to the nearly normal.

Senile dementia. — The loss of mind in old age or in a way which commonly characterizes old age — " senile dementia," as it is called — is not of great interest to us here except as a rough introduction to the so-called dementia of youth.

"Once a man and twice a child." We are all familiar with the failing mind of those who are entering their second childhood, and senile dementia may be thought of, in a general way, as an exaggeration of this failure of faculties. However, cases vary so much that a great range of symptoms may appear; for when the brain machine begins to fail, those parts of it which inheritance has made weakest in any individual are likely to fail first. There may be failures in perception, or there may be delirium and confusion, or depression and agitation, or any of many other symptoms.

The most usual central symptom, perhaps due to a weakened stream of transmission, is failure of attention and retention, more especially retention for recent events. What was learned long ago may remain and may be repeated and discussed without limit. But the subject is slow of comprehension, and the ideas that do come vanish quickly. As to the affects, some senile dements tend to be frequently stormy with anger, some are highly suspicious, some sexually perverted, some silly with good nature, and some simply stupid.

Arteriosclerosis (hardening of the arteries) may or may not be present. Acting independently of age, it may cause a form of dementia similar in many respects to the senile.

Dementia precox. — "Precocious dementia" is premature mental decay. In most cases, it comes on before the age of twenty-five, often at puberty, and what may be called premonitions of it may sometimes be seen in childhood. The earlier it comes on, the more serious it is, since the patient is likely to fall more quickly into mental dilapidation. In both senile dementia and dementia precox we often find the failure of attention and of memory (the latter coming later in the case of dementia precox), the incoherent association — though with wilder word play in the precocious dement — the perfect conservation of old knowlege existing side by side with the loss of the new, and the same silliness of manner. There is quite a fundamental difference, however; for the central symptom in dementia precox is *indifference*, loss of affect — the patient may not even care about his meals. If McDougall is right in thinking that the instinctive affects have their seat in the lower ganglia of the brain,[1] then this organ of life apparently suffers a more basic and destructive

[1] *Introduction to Social Psychology*, p. 33.

attack in the precocious dement than in the senile. Yet the dementia precox patient is usually favored with a long span of life.

Three types are commonly distinguished, the hebephrenic, the paranoid, and the catatonic. Hebephrenia, or " juvenile mania," means literally " the mind of youth." The patient not only fails to put away childish characteristics, but shows acute mental excitement without adequate cause. He suffers hallucinations, but usually no delusions, settles down, in a few months, to a state of emotional indifference, and practically never gets well.

The paranoid type is so named because of the general resemblance to paranoia, from which there is often difficulty in distinguishing it. In dementia precox, however, the delusions are more loose, fantastic, and less systematized; and other symptoms more or less characteristic of all forms of dementia precox are usually found, such as stereotyped expressions and acts, automatic behavior and peculiar mannerisms, and undue suggestibility, perhaps of a negative nature, the subject either remaining stolidly resistive or doing the opposite of whatever is suggested to him.

The most common type of dementia precox is the catatonic — " catatonia " indicating increased muscular tension, and especially a kind of sluggish muscular automatism in which the subject may sit or stand for a considerable period in any awkward position in which he is placed. Catatonic excitement may also appear, wherein the patient appears somewhat maniacal and throws limbs and body about in ways that are foolish, purposeless, and more or less stereotyped. Also common are negativism (described above), mannerisms, stereotypy, and verbigeration (see examples in the Exercise at the opening of this chapter).

Some ten or fifteen per cent of these patients recover.

Symptoms of dementia precox among pupils. — Rosanoff states that mild cases of dementia precox are more frequent than is commonly known and often pass for "negligence" or "lack of ambition."

> The following lines from a letter addressed by a principal of a school to the parents of one of his pupils are very significant from this point of view:
>
> "As you can see, the marks of M. L. are no better than those for the preceding term, far from it. This pupil pays no attention to his duties, which three-fourths of the time are left unfinished; he no longer takes the trouble of learning his lessons. In the classroom and at his studies he spends most of his time dreaming. It is evident that he cares nothing for his work. His professors no longer recognize in him the former studious pupil. It seems that even the approaching examinations do not affect his indifference. When it is pointed out to him that he is likely to fail, he promises vaguely to be more diligent, but one can see that he has no firm determination. The comments and suggestions in the letters of his parents no longer have any effect on him. . . . Formerly so jolly and so full of good humor, he has become quite unsociable. He does not seem to be pleased except when alone. When, by way of exception, he joins his comrades in conversation or in play, he soon leaves them, often after quarreling with them over some absurd trifle. . . . Lately he has been complaining of insomnia and headache. We have had the physician see him, but he has found nothing serious and has merely prescribed rest." [1]

M. L. later became thoroughly demented.

Epilepsy. — Epilepsy is eminently heritable and scarcely curable. It is almost certain to appear during youth, and may be present from babyhood, showing, perhaps, in the form of teething convulsions. The typical epileptic is feebly intelligenced; but there are conspicuous exceptions, one of whom is said to have been the great Napoleon.

The disease appears to be unlimited in variety of symptoms; usually, we expect a periodical depressive psychosis, rather sudden and brief, followed by convulsions. This is the

[1] Aaron J. Rosanoff — *Manual of Psychiatry*, p. 235.

common form of *grand mal*, the more severe type of epilepsy. The convulsions, however, may occur without psychosis. In *petit mal*, the lesser form of the disease, there is often a temporary cessation of consciousness without convulsion. The individual is likely to remain sitting or standing as when seized, but soon comes to himself in a dazed way and proceeds with his former occupation. Other cases show, in their attacks, some resemblance to neurasthenia or a mild mania.

Syphilitic dementia — General paresis. — This disease, according to recent findings, probably never appears except in the wake of syphilis, and usually several years in its wake. Friends may notice first a personality change, perhaps with rudeness and indifference and recklessness where once were politeness and kindness and carefulness. Then comes a slowing down of affect, as in dementia precox, with poor judgment, and delusions often senseless. The patient, before he is recognized as such, may make a foolish disposal of his property, or even of himself.

But it is the physical symptoms that make certain the diagnosis. The pupils of the eyes do not respond to light, reflexes and other movements are jerky and exaggerated, and the prick of a needle produces little pain. Most decisive are the test of the blood and the (Wassermann) test of the cerebro-spinal fluid found in the canal which runs through brain and spinal cord. Late in the course of the disease appear extensive paralyses, due to progressive deterioration of the brain, — "general paresis" is a shortened term for "general paralysis." Usually, death is to be expected within four or five years.

Alcoholism. — Mental disturbances due to alcohol are often included under the general head of *toxic*, that is, *poison* psychoses. But so common is alcohol that the term

"intoxicated," literally, "poisoned," has come to mean "alcoholized."

Alcoholism is ordinarily thought of as a habit which the individual could break if he would; but frequently it is not an ordinary psychological habit in a normal nervous system. It is a pathological habit which expresses a strong hereditary trait.

The theory has been advanced that in the brain there are centers for eating and drinking, centers which are normally stimulated by bodily conditions of hunger and thirst, but which may be artificially roused to action otherwise. Certainly, we know of many who gorge and swill great quantities of food and drink quite heedless of bodily needs. The reason why alcohol is so often the chosen drink is largely because of the desired *change of feeling* which it produces.

Drinkers of alcohol are usually divided into two classes — the sot, or steady drinker, and the dipsomaniac, whose periods of sobriety are punctuated by sprees. H. Crichton Miller[1] describes the steady drinker, not as a drunkard but as a sober toper. He takes his bottle a day of strong drink and still runs his business. But he is commonly a hopeless case, drinking away till body and mind are ruined.

The dipsomaniac has not merely a habit, which prohibition might break, but a disease which prohibition can scarcely cure. Very often some physical disease or mental trouble has thrown him into an affective state from which he desperately seeks to escape, escape into that realm of power and grandeur which alcohol artificially creates, or into unconsciousness. As we should expect, alcoholism is closely connected with other diseases — both physical and mental — aggravates many of them, and may even bring them on.

[1] See his *Psychology of Alcoholism*, p. 14. The whole discussion is excellent.

Miller even asserts that there is a type of epileptic dipsomaniac who, instead of having fits, drinks alcoholic liquor. Between attacks he is normal and can be trusted to remain sober; but from time to time there is " a sudden change, a physiological change taking place in the higher centers of the brain " which makes him instantly a different individual who must and will have alcohol.

The well-known delirium tremens, with its many illusions and hallucinations, is but one of the many types of illness to which the drunkard is subject; but while recovery may be slow or even unattainable, the patient's symptoms usually cease to progress as soon as he ceases to use alcohol.

Amentia. — The etymology of " dementia " shows that the word signifies loss of mind once present. "Amentia" indicates absence of mind from the beginning. So strongly has the attention of investigators been focused on intelligence that amentia often means " feeble-mindedness," and feeble-mindedness has meant feeble intelligence. Yet feeble affects, as we have found in dementia precox, are still more serious than feeble intelligence. "Amentia" should include both.

Since there is no departure from a previous standard of health, we can hardly regard amentia as a disease. It is an inborn condition. It is present, however, in various grades with many mental diseases and disorders of conduct, and may aggravate their symptoms considerably.

Other nervous disturbances. — We have not exhausted the varieties of mental or nervous difficulty, nor can we in this discussion. We have only sketched the chief species of ailment which are of outstanding interest to the student of mental hygiene. As previously stated, injury to the neurones, or stimulus to abnormal action may be (1) physical,

(2) chemical, or (3) mental. Trauma, that is, physical injury, may set up a great variety of symptoms, or even lead to permanent dementia. Chemical influences may be exerted through the endocrine glands, by auto-intoxication, or by substances from an external source. The most frequent phreno-mental injury results from overstimulation.

Some of the more common disturbances of the neurones, which have also, or may have, a mental aspect, are apoplexy, commonly known as " shock," due to disturbance of cerebral circulation which may or may not be caused by syphilis; brain tumor, appearing but rarely and removed with difficulty; meningitis, an inflammation of the membranes that wrap the brain or spinal cord; *tabes dorsalis*, that is, locomotor ataxia, caused by spinal syphilis and resulting in a shuffling gait and other interference with movement; poliomyelitis, also known as infantile paralysis; neuritis, almost always (if a real neuritis) associated with the use of alcohol; and migraine, or " sick headache," based on inheritance and found more frequently in women than in men.

CLASS EXERCISE

If possible, arrange for a visit to a hospital where there are mental cases which, with the coöperation of a psychiatrist, can be studied clinically. Try to see one or two of each of several types, and get the case histories.

A school may be visited and traits of pupils listed from observation, talks with teachers, etc., the object being to find such traits as through exaggeration may in maturity tend toward mental illness. What help could be secured from a knowledge of the pupils' inheritance?

Cases may also be presented from newspapers, biographies, etc., with suggestions as to diagnosis.

FOR FURTHER STUDY

1. In 1796, Charles Lamb wrote as follows to Coleridge:

> At some future time I will amuse you with an account, as full as my memory will permit, of the strange turns my frenzy took. I look back upon it at times with a gloomy kind of envy; for, while it lasted, I had many, many hours of pure happiness. Dream not, Coleridge, of having tasted all the grandeur and wildness of Fancy till you have gone mad! All now seems to me vapid, comparatively so![1]

Comment on this, attempting to explain it psychologically.

2. *Petit mal* affects the upper part of the brain and *grand mal* the lower part also. Show that the seriousness of a mental disease may be estimated by the lowness of the point which it has reached in the brain. What part has been reached when general paresis affects the basic reflexes?

3. Try to determine the dominant affect of some of the notable characters, past or present, with whose personalities you are somewhat familiar. What do you think was Lincoln's prevailing feeling? Grant's? What is the dominant affect of your favorite minister, actor, author, etc.?

4. Do you agree with Hollander that there is an instinct of suspicion? What evidences of it are found among the lower animals, especially in connection with fear? Give instances, if you can, from among human beings. Beers says that a majority of the insane are characterized by an inordinate suspicion.

5. State any case known to you of mental injury from trauma; from chemical damage to the brain; from mental cause, as overstimulation.

6. It is said that insanity either (1) exaggerates traits already present, or (2) alters the personality, generally degrading it. Examine the types of mental disease which you have studied and see to what extent this statement holds true. (See also Question 11.)

[1] As quoted by Beers in *A Mind That Found Itself*, p. 84.

7. Show how the blocking of the synapses by poisons may help to explain any mental state in which there is a slowing down of ideas or reduction of affect? Can this be the case in dementia precox? If so, how can we explain its long continuance?

8. What similarity can you discover between dreams and hallucinations? Would it be true to say that we are all insane when we dream?

9. Cabot states that the manic-depressive psychosis tends to come on in autumn and early winter and go off in the early spring. Johnstone regards dipsomania as a periodic disease which, when its cycle is annual, usually comes on in May or October. Show that these periods may have some relation to the metabolism of body and brain. Kraepelin says that, in most forms of insanity, regular weighing gives a good index of the general state of the disease. For instance, a goodly increase in the previously reduced weight of a manic-depressive patient shows that the attack has probably passed its worst point.

10. Paranoia means literally "a mind beside itself." Show how this meaning applies to the condition.

11. There is sometimes difficulty in making diagnosis as between mania-depression and dementia precox. Buckley emphasizes the fact that the deviation from previous personality in mania-depression is *quantitative*, the patient being like his former self but with certain traits exaggerated; whereas in dementia precox there is a *qualitative* change, the whole personality taking on a new aspect. From the standpoint of outlook for the future, what importance attaches to the making of a correct diagnosis?

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. Typical cases of all kinds of insanity. (Kraepelin.)
2. Morbid personalities, criminals, and vagabonds. (Kraepelin, Chs. XXIX, XXX.)
3. General etiology and symptomatology. (Rosanoff, Chs. I–IV.)
4. Synaptic action in mental disease. (Dercum, p. 136 ff.)
5. Classification of mental diseases. (Rosanoff. Kraepelin.)

6. Diseases of the brain, spinal cord, and nerves. (Cabot, pp. 256–287.)

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CHAPTER IX

Outline of the Causes, Diagnosis, and Treatment of Mental Disease

Exercise. — Thousands of cures (along with many failures to cure) have been wrought by visits to sacred places, the touching of religious relics, the use of amulets, charms, and the like. John Wesley, founder of Methodism, occasionally cast out "demons" (mental illnesses) by prayer. Joseph Smith, Mormon leader, cured numerous cases by faith healing. Father Mathew, the great temperance reformer of Ireland, cured many lunatics and others by mental treatment, and after his death, many others were cured by visiting his tomb. Cures have also been wrought by Phineas P. Quimby, Mrs. Mary Baker G. Eddy, and numerous other practitioners of psychotherapeutics.

On the other hand, many physicians attempt to cure all ills, whether bodily or mental, almost wholly by what might be called corpo-therapeutics, treating the body only.

Should one attempt to treat mind independently of body? Body independently of mind? Give reasons.

Insanity as related to age, sex, and race.[1] — Under the age of 15, mental illness of sufficient seriousness to require resort to a hospital is extrememly rare, the proportion being less than one person to 100,000 of the general population. From this age on, admissions to institutions rise rapidly with advancing years until, at the age of 65 and over, there are about 161 admissions to 100,000 people, with an average, for all ages, of approximately 63. It is notable that more than

[1] Most of the facts given under this and the following heading are taken from Rosanoff's *Manual of Psychiatry.*

half of all dementia precox and manic-depressive cases occur before the age of 30.

Judging from the number of hospital admissions, the incidence of insanity among men is about 20 per cent greater than among women. This difference, however, appears to be due to the greater prevalence among men of paresis (whose syphilitic origin will be recalled) and alcoholic psychoses. The admissions for all mental maladies other than these are about the same for the two sexes.

Study of racial incidence in the United States indicates that Negroes stand high in general paresis, the Irish in alcoholic insanity, Jews in dementia precox and manic-depressive cases, and Italians in various " other psychoses " not closely classified. " Americans " are not outstanding in any clinical direction.

Insanity as related to conditions of life. — Cities show a much higher rate of admission to institutions than do country districts. But city populations show a higher age average than do the rural,[1] are more abundantly afflicted with alcoholism and syphilis, and usually have easier access to institutions.

The foreign born contribute more than twice as many cases of insanity to institutions as do the native born. The difference is partly due to age distribution, partly to the greater proportion of town dwellers among the foreign born, partly to the unusual strain under which the immigrant lives. Apparently, the foreign born show no greater hereditary tendency to insanity than do the native born.

Occupation exerts an influence in the way of special temp-

[1] As stated above, there are few cases of insanity under the age of 15; whereas one investigation shows that only 27 per cent of the urban population was under that age, as against 36 per cent of the rural population.

tations. Employees of breweries, distilleries, and houses where intoxicating drinks were sold, have shown more than the average liability to alcoholic psychoses. Soldiers and sailors, traveling salesmen, and railroad employees show a greater incidence of general paresis. Among members of the professions, liability to the more serious mental diseases is probably much below the average.

The illiterate furnish about four times as many institutional cases as the literate. This is not so much because literacy keeps one sane, as because the inherited weakness or other peculiarity of those who later became insane had prevented their learning to read or write.

The married population, considering its great preponderance over the number of single individuals, contributes much less than its proportion of insane institutional admissions. Marriage probably helps to preserve sanity; but it is also true that the insane, and many of insane tendency, are less likely to marry than are the normal.

Causes of mental illness. — *Inheritance.* — To find the cause of anything is to take the first step toward controlling it. What causes mental disease?

The great and constant cause, practically always present with all other causes, is inheritance. This it is which chiefly determines resistance — how much the brain will stand in the way of stimuli and attacking forces of any kind before it gives way. Nature's last, most delicate, and most cunning piece of workmanship in the evolution of the whole human anatomy is the conscious portion of the brain. No wonder, then, that it so often weakens under the stern siege of what we call civilization.

Some would assign inheritance as a cause in those cases only where the phreno-mens is so weak that it shows abnor-

mality in the midst of an ordinary environment and with no unusual strain. Even so limited, it is a major cause. One investigation showed that in more than one-half the cases of paranoid personality, emotional instability, criminalism, and related difficulties, the trouble had arisen in an average environment and without special strain. Such diseases as epilepsy, dementia precox, paranoia, melancholia, mania-depression and the psychoneuroses may appear without other cause than inheritance.

Certain psychiatrists appear to feel that ascribing mental weakness to inheritance is a concession to fatalism. One of them, having an adult patient who was averse to taking a bath, traced this disinclination back to a childhood fall into a river. But a child of normal nervous system, living in an ordinary environment where baths are frequent, would be changed, taught, cured of such a minor fear in the ordinary course of development. Many other children who have had dangerous falls into water nevertheless learn to tolerate and even enjoy bathing.

The greater fatalist would seem to be he who ascribes too much to the environment.

Physical, chemical, and mental causes. — As stated before, the attacking force may be physical, chemical, or mental. Traumatic psychosis of a serious nature, that is, insanity due to head injury, is quite rare, such cases constituting only a small fraction of one per cent of total admissions to hospitals. Often, as has been said earlier, a blow or fall is set forth as a cause by relatives who are either themselves deceived or who wish to avoid the possible disgrace attaching to syphilitic or other unfortunate inheritance. If the word " physical " is widened in meaning so as to include bodily impairments, then it includes many " organic signs," which, if not causes

of mental disease, are at least suspicious accompaniments. An examination of 100 mental cases — 30 organic and 70 functional — revealed that all but one had organic signs, with a total of nearly 750 symptoms.

Chemical causes of course take the form of poisons, either introduced from without the body, as in the case of alcohol and other drugs, or manufactured within it, as during fever. The bodily impairments mentioned above may act either physically, as does arteriosclerosis, or chemically, as in the case of toxemia (blood poisoning). "If we can abolish alcohol and syphilis," says Cabot, "we can abolish more than half of insanity. Inheritance accounts for almost all the rest." [1] Drug addiction is also important.

Mental causes may apparently take as many forms as there are ideas and feelings. If there is underlying hereditary weakness, or if physical or chemical attack has sapped the cells of the brain, then whatever affect or idea is present when the collapse comes is likely to be regarded by the patient as causal, and may even be set down as such by his friends or by a superficial diagnostician. The most common mental causes, according to Rosanoff, are business troubles, domestic troubles, love affairs, and the illness or death of relatives.

Many cases show a complication of causes, dating back through varying periods of time and assuming very different degrees of importance.

On the question as to whether nervous and mental diseases, on the whole, are increasing or decreasing, authorities are not agreed.

Diagnosis of mental illness. — Of course it is not our purpose here to learn the intricate art of diagnosing mental

[1] Richard C. Cabot — *A Layman's Handbook of Medicine*, p. 252.

disease, but a peep at the general method used by the practitioner may be enlightening.

Case history is always valuable, and is often worked out in some detail, as illustrated in Figure 12. Such a history is naturally preceded or followed by a complete examination, physical, neurological, and mental. The mental difficulty is determined, by some psychiatrists at least, according to the plan of "diagnosis by exclusion," [1] as sketched below. The items are checked off by inquiry, in the order given, until the disease is detected.

Diagnosis by Exclusion

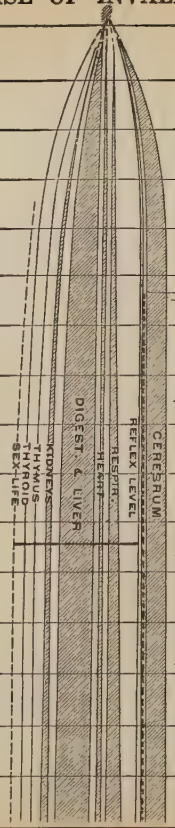
1. Chronic ailment of central nervous system. Organic brain disease. Arteriosclerosis? Paresis? Etc.
2. Acute damage to nervous system. Toxic? Alcoholic? Delirium of fever? Etc.
3. Mental: emotions present. Mania-depression? Etc.
4. Mental: emotions going or gone. Dementia precox? Etc.

Some examiners conduct a systematic search for peculiarities of mind and behavior by running through the psychological sextet of abilities: (1) perceiving, (2) remembering, (3) imagining, (4) thinking, (5) feeling, and (6) acting. (See Chapter II.) Does the patient show any of the following or related difficulties: (1) Hallucinations? (2) Amnesias? (3) Delusions? (4) Failures of judgment? (5) Extremes or absence of affect? (6) Behavior of an unusual kind?

General considerations as to cure. — A person, as we have seen, is a bio-mental unit, a phreno-mental individual. Mental disease means a disordered stream of transmission. To cure a case means to restore the stream of transmission to its normal flow through normal channels.

[1] Used by members of the Staff of the Pennsylvania Hospital.

NAME: CASE OF INVALIDISM *May 27, 1885* N.B.



		Yr.
1886		1
7		2
8		3
9		4
1890		5
1	Beginning of headaches.	6
2	Private school.	7
3		8
4		9
1895		10
6	"Typhoid"?	11
7	5th grade repeated.	12
8	Menstruation irregular. Headaches partly menstrual, partly reactive.	13
9		14
1900		15
1		16

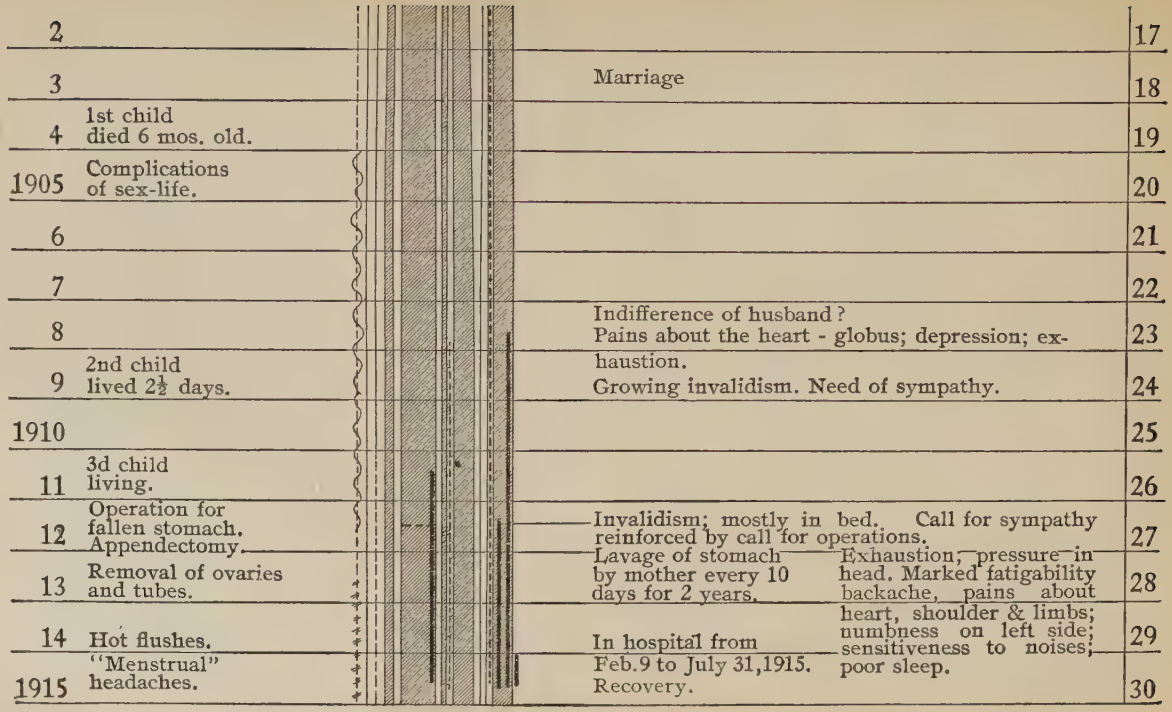


FIG. 12. — Chart of a case of invalidism. (From *Suggestions of Modern Science concerning Education*, by H. S. Jennings, J. B. Watson, A. Meyer, and W. I. Thomas, p. 108. Macmillan.)

As physical, chemical, and mental means may act on the phreno-mens to impair it, so also may they repair it again. Beers's delusion as to epilepsy was cured by the shock of dropping from a third story window. The chemical improvement of the blood stream has meant, to many a patient, the return of sanity. That multitudes of cures have been wrought by mental means there can be no doubt.

The sensible physician uses every approved means of cure, applying that first which fits the case best. I like well the attitude of Myerson, who asserts that separation into psychical and physical is wholly artificial so far as physicians are concerned. We do not separate the influence of the environment as it streams in through eyes and ears from the influences that come through the gastro-intestinal tract.

> . . . even if the individual is depressed or anhedonic because of an unhappy love affair or a serious inferiority situation or some complex arising through the social, economic, or psychological state in which he happens to be, you can change his attitude toward these circumstances by physical means just as surely as you can change his digestion by distressing thought. . . . *In other words, drugs and physical therapeutics are just as much psychic agents as good advice and analysis* and must be used together with these latter agents of cure.[1]

The treatment of the insane. — Unfortunately, there is no specific cure for any form of insanity, and a comparatively low per cent (statistics appear to indicate from five to twenty per cent) permanently recover. On the other hand, no one dare assert that recovery is impossible for even the worst of cases, for nature does sometimes work cures almost miraculously after a decade or two of insanity, as if to provide exceptions to the most rigid rules. In fact,

[1] Abraham Myerson in "Anhedonia," *American Journal of Psychiatry*, Vol. II, No. 1.

twenty of every one hundred recoveries appear after one or more years of confinement.

For the mentally diseased we must seek suitable environment, physical and mental. This means, for the most part, an environment of pristine simplicity within some haven of rest. The most adaptable kindness must be found there, with as little restraint as may be. The patients ought to be dealt with honestly in every particular, frankly told that they are mentally ill, and encouraged to recognize real conditions and face them open-mindedly. Their sane friends and relatives should treat them sanely, keep them in touch with reality and attached to life.

> To be on the safe and humane side let every sane relative and friend of persons so afflicted remember the Golden Rule, which has never been suspended with respect to the insane. Go to see them, with as much of the light of sanity as you possess; treat them sanely, write them sane letters; keep them informed about the home-circle; let not your devotion flag, nor accept any repulse. There is a sure reward — sometime — somewhere.[1]

Occupation should be furnished so far as it can be followed, and suitable amusement provided, both to maintain a wholesome affective tone and to cultivate outmindedness. We should not even overlook the influence of good clothing in creating a frame of mind that is good. Music is especially effective. Religion and prayer should find a place, and may prove the best of therapeutics.

In addition, there are many hygienic agencies that are also semi-curative, such as graduated exercise, out-door living, massage, baths of various type, and tempting food.

Mental healing as applied to mental illness. — Patients suffering with the lesser forms of mental disease, notably the psychoneuroses (as well as many forms of bodily disease),

[1] *A Mind That Found Itself*, p. 58.

have often been much benefited or even cured by psychotherapeutic methods. Mental healing in some form is as old as mankind. The most notable American pioneer in this uncharted region was Phineas Parkhurst Quimby (1802–1866). After curing himself of what physicians had diagnosed as consumption, he became zealous to impart "the Truth" to others. In a circular to the sick, he says,

> My practice is unlike all medical practice. I give no medicine and make no outward applications. I tell the patient his troubles and what he thinks is his disease; and my explanation is the cure. If I succeed in correcting his errors, I change the fluids of the system and establish the truth, or health. The truth is the cure.

We wonder, of course, why an "explanation" of "the truth" should constitute a cure; and we are reminded at once of the procedure of the psychoanalysts and others who have found that talking over a mental trouble, probing into its cause and bringing that cause into the full light of a reasonable consciousness often *is* the cure. If the patient has been oversecretive, as such patients often are, then pouring out his soul, talking out the content of his psyche, relieves his integrative centers of the constant strain of "holding in." Also, to "tell the patient his troubles" may further free these centers from the fatigue of living on a false basis, such as an assumption of sentimental goodness. He finds that, in the fundamentals of human nature, he is much more like other people than he may have supposed; and he learns, especially under the guidance and example of his teacher-physician, to recognize and accept real conditions and meet them actively, to introspect impartially and cultivate outminded concentration and to obey other rules of mental health.

In time, we shall come to know, by their fruits, the comparative values of various methods of healing. It has been stated on good authority (the authority of a well-known psychiatrist on the staff of a prominent hospital) that S. Weir Mitchell healed more " nervous " patients with his " rest cure " than all other practitioners with all other methods combined. Of late years there has been a strong tendency to include, in the program of healing, the arts of reëducation, based on the principles of educational psychology. Accordingly, we shall conclude with a few suggestions relative to the learning of illness and of health.

Learning illness and health. — Let us recall that learning, the forming of neurograms, is based on the fundamental laws of *readiness*, *exercise*, and *effect*.

Dolly, a horse, was very intelligent, and had no fault except that she was afraid of a tin pail. In her colthood, a boy had used a tin pail to beat her with. Her fear instinct made her " ready " for this piece of learning, the boy exercised her neurones very vigorously, and the effect was extremely disagreeable. Result: a neurogram in which " tin pail " and " shying to avoid suffering " were taught in as stimulus and response. Now, if a psychiatrist were to treat such a patient for her petty ailment, he would perhaps wish to psychoanalyze her, get her to talk out the original experience and understand what was the matter. But since horses can not respond in that way, he would probably get her case history indirectly, and then proceed to form a new neurogram in which " tin pail " would be built in with " kind master," " cool drinks," and " bran mash." If the patient had the sound neurones that usually accompany good native horse sense, she could very likely be cured; but if she had not, the prognosis would be less favorable.

Further, elements of experience which have no logical connection with each other may be so joined together in a neurogram as to make it difficult to put them asunder and prevent one from setting off the other. Perhaps someone, while he is in a state of vague fear, loses an article. Thereafter, the situation, "lost article," may arouse the response of "vague fear" even when there is no logical cause for fear. Also, such a piece of learning — for learning it is — may be acquired (as we have seen in Chapter IV) without the subject's being aware that he is learning this habit, or being able to recall afterward how he came by it.

Whenever two groups of neurones are active at the same time, nervous impulses tend to pass between them, uniting them in such a way that a part or the whole of one may thereafter set off a part or the whole of the other. There is nothing strange about this. If we at the same time both see and hear a bell, the sight of it may thereafter remind us of the sound. Between two groups of neurones which are roused at the same time, resistance is lessened, so that nervous currents from one tend to flow into the other and make of the two a single neurogram.

It may even help us at this point to consider a case of what might have been. A patient who was recovering from influenza read a letter containing unfavorable financial news. At about the same time, abdominal pain began. She ascribed the pain to nervous indigestion resulting from the letter, whereas the nurse ascribed it to medicine recently administered. The nurse proved to be right. The pain soon subsided and the letter troubled her no more. Now, if this patient had had an hysterical make-up, the reading of a letter from the same person or in the same bed might for long thereafter have set up abdominal pain, and

the patient would have needed mental treatment as well as medicinal.

This principle of simultaneously built and communicating neurograms helps us to understand also one reason at least why mental patients are in general so strongly inclined to blame the environment for their troubles, and are so inordinately suspicious of others. Such patients suffer and know not why; and since human nature has in it almost an instinct for the finding of causes, so as to control destiny, they are likely to feel that they have done nothing to cause their misery. But here is the intrusive environment; its irritating objects and disappointing events and grinning, gesticulating people are built into the neurograms of suffering. It is not logical — but we can not expect one to be always logical when he is pathological. The reader who is familiar with psychological literature will no doubt be reminded, in this connection, of the "conditioned reflex." I share H. L. Hollingworth's[1] wonder that this type of learning, long regarded as a remarkable discovery, was not sooner recognized as familiar and subsumed under our old psychological laws.

The detailed application of the laws of learning to the treatment of mental patients we can not trace here. (See Numbers 5, 6, 7, and 8 of the Topics for Special Investigation and Report at the close of this chapter.) But in later pages we shall find many occasions to show how reliance on these laws may educate both us and our pupils out of the byways of mental illness and keep us and them on the highway of mental health.[2]

[1] See his *Psychology of Functional Neuroses*, p. 16.

[2] Jane Hillyer has given a most interesting and instructive list of the factors which, after her escape from four years of insanity, assisted her most in making

CLASS EXERCISE

Review this chapter, observe carefully the causes and conditions of insanity, and list accordingly the measures that would appear to be effective in helping to prevent mental disease.

Can we select any one most effective line of work toward prevention? If so, what?

Let there be free discussion.

FOR FURTHER STUDY

1. The following is found on a wall near the entrance to a certain hospital: "Never utter a discouraging word while you are in this hospital. You should come here only for the purpose of helping. Keep your hindering sad looks for other places; if you can't smile don't go in."

What kind of therapy or hygienic influence is recognized here? What value do you attach to it? Why?

2. We have thyroxin to cure cretinism and insulin for the treatment of diabetes, thus supplying secretions which the body fails to produce for itself. Do you think we shall ever have mentalin, or brain-alin, or anything of that kind which will remedy mental defect or disease? Why or why not? Some have said that the brain secretes mind as the liver secretes bile. Comment on this theory.

3. Beers says,

> At each meal, to be sure, I was given the usual portion of food served to the other patients, but an average portion of such food is not sufficient to repair the prodigal waste of brain and bodily tissue which is symptomatic of elation.[1]

What does this indicate as to the relation of emotion to brain and body?

the necessary adjustments and in preventing a relapse. She mentions the following especially: an objective and impersonal view of her own case; interesting work; agreeable and bracing social contacts; play, in the form of an absorbing hobby; the cultivation of fearlessness; the attainment of a large-perspective view of life, as a means to lighting its gloomy spots; and the enjoyment of humor. (Chapter IV of *Reluctantly Told.*)

[1] *A Mind That Found Itself*, p. 154.

4. H. Crichton Miller advocates flogging for responsible cases of drunkenness, and calls attention to the fact that flogging stopped garrotting in England, and worked an improvement in correcting white slave traffic. He would adminster the flogging whenever the offender could not say "British Constitution" or do "left wheel, — the ordinary Guards' test for intoxication." [1] Is this a physical, chemical, or mental remedy? What is your opinion as to its efficacy?

5. The "rest cure," involving cessation from all activity, has undoubtedly benefited great numbers. Yet Sidis states emphatically that rest is harmful to the neurotic, and that what he needs is "*work, work, and work.*" Which cure would you prescribe for one who was fatigued into nervousness? For one who was too much preoccupied with himself? Show the necessity for careful diagnosis.

6. In making diagnosis, some favor a quick cross section view of the case, secured by applying tests, questioning the patient, observing him, etc. Others lay more stress on the "long section view" obtained from the patient's family history and personal history. Which should you regard as superior? Why? Is there any objection to having both?

7. Those who are but mildly afflicted with epilepsy, perhaps having seizures at night only, can sometimes hold employment by refraining from alcohol and much protein in the diet, living a great deal out of doors and working moderately with mind and body. Under what conditions would you undertake to keep an epileptic child in school?

8. In a large military hospital, it was found that about 20 per cent of the men suffering from war neuroses had a history of alcoholism in the father, going back to the patient's boyhood. Did the parental alcoholism probably lay the foundation for the neuroses, or did the neurotic family germ-plasm show itself in alcoholism, or can each, to some extent, cause the other?

9. The troubles of the hysteriac are sometimes spoken of as "imaginary." "We must realize, however," says Carroll, "that

[1] *Psychology of Alcoholism*, p. 29.

they are disorders of the imagination." [1] If the hysteriac has a weak stream of transmission, what should we expect as to the effect, by way of suggestion, of even ordinary stimuli?

10. One physician says that getting well is often three-fourths mental and one-fourth physical. Show that, owing to the influence of the personality of the physician, measures adopted, etc., mental healing is always used (or abused) no matter what other means are employed.

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. The modern conception of mental disease. (*Suggestions of Modern Science Concerning Education*, p. 201 ff.)
2. "The Non-specificity of Mental Disease." (Edward A. Strecker, in *Mental Hygiene*, Vol. VII, No. 2.)
3. A minimum mental examination. (White, Ch. XIX.)
4. Hypnosis as compared with psychoanalysis in case study. (MacCurdy, Ch. XII.)
5. Hypnotism as a means of cure. (Quackenbos.)
6. The hypnoidal state in diagnosis and cure. (Sidis.)
7. Relation of the concept of redintegration to the idea of the forming of neurograms according to the laws of learning. (Hollingworth.)
8. Nervous and mental reëducation. (Franz.)

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[1] *Mastery of Nervousness*, p. 22.

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PART THREE: PERSONAL

The Mental Hygiene of Adult Life

PART THREE

CHAPTER X

General Hygiene. Sleep

Exercise. — Memorize the "Sixteen Rules of Hygiene," as found below.

Note especially the significance of the four large divisions.

Check up on these rules at least once a day until obedience to them becomes, as nearly as may be, automatic.

The Sixteen Rules of Hygiene.[1]

I. Air
   1. Ventilate every room you occupy.
   2. Wear light, loose, and porous clothes.
   3. Seek out-of-door occupations and recreation.
   4. Sleep out-of-doors if you can.

II. Food
   5. Avoid overeating and overweight.
   6. Avoid excess of high protein foods, such as meat, flesh foods, eggs; also excess of salt and highly seasoned foods.
   7. Eat some hard, some bulky, some raw foods daily.
   8. Eat slowly and *taste* your food.
   9. Use sufficient water internally and externally.

III. Poisons
   10. Secure thorough intestinal elimination daily.
   11. Stand, sit, and walk erect.
   12. Do not allow poisons and infections to enter the body.
   13. Keep the teeth, gums, and tongue clean.

[1] From *How to Live*, by Irving Fisher and Eugene Lyman Fisk. This Health Lover's Bible should be in the personal library of every student and its essential contents absorbed into his brain and practiced into his daily life.

IV. Activity
14. Work, play, rest, and sleep in moderation.[1]
15. Breathe deeply; take deep-breathing exercises several times a day.
16. Keep serene and whole-hearted.

Minding the body. — Even after one is convinced that he is a "bio-mental unit," it is often necessary to urge him to mind his body for his mind's sake. No one who seriously violates the major principles relating to air, food, posions, and activity should feel injured if Nature persists in collecting bills of unhappiness from him, for he has not earned his claim to joyous health.

Indeed, one who has been brought up without the care of modern orthopedia and hygiene should secure a thorough examination to make sure that, through years of habit, he is not staking a claim to illness.[2] In many cases, he can rid himself of the abnormal functioning of some organ, or otherwise strengthen the undercurrents of health, by including in his "daily dozen" some type of corrective gymnastics.[3]

Leaving to physical education those matters which pertain chiefly to the body, we shall here stress that great psychophysical restorative, sleep.

[1] In the author's judgment, Walter Camp's system of exercise and relaxation known as the "Daily Dozen" deserves the great popularity it enjoys. Mr. Camp appears to have discovered a principle which is of great advantage to all. (See References at close of chapter.)

[2] The Life Extension Institute, of New York City, gives complete personal examination and health service at reasonable rates. Its work is not only a personal health asset to every individual who chooses to profit by it, but a national health asset as well. It should be known and recommended by every teacher.

[3] Cases, both mental and physical, and remedial exercises to fit them, are found in *A Manual of Corrective Gymnastics*, by Louisa C. Lippitt. (See References at close of chapter.)

Importance of sleep for mental health. — Aside from air, which must be supplied momentarily, sleep is our greatest need — more necessary than food. An animal such as the dog may go without food for twenty days, lose more than half its weight, and still survive; but the loss of sleep for even four or five days may injure it so severely that it can not recover. A soldier kept too long alert may sleep while marching for miles or even while suffering from a deep and bleeding wound.

Insufficient sleep is making countless millions miserable, and many of them do not even suspect what the trouble is. Because of it, families grow irritable and quarrel; the teacher is "blue," nervous, and cross; our finer thoughts and feelings are submerged under a crust of fatigue products, and the kingdom of heaven, which we had partially discovered within us, is lost. Long ago, somebody observed that "thrive" rhymes with "five," and wove that rhyme into an everlasting untruth: "He who would thrive must rise at five." We should hear less about Napoleon, who slept only four or five hours, and more of Dr. Johnson, who sometimes lay in bed till three o'clock in the afternoon. But even Napoleon, after he had won seventeen victories in succession and was then defeated in the battle of Aspern, slept thirty-six hours without awakening, causing his suite to fear for his life.

What is sleep? — Sleep is the diminution or cessation of the conscious portion of the stream of transmission, and especially of that part of it which flows through the integrative centers. Of course there are also other changes in various parts of the body.

The normal nervous life requires (1) a powerful brain battery that provides high nervous potential, and (2) normal

nerve currents flowing through normal channels for a normal period of time. The brain battery can not stand the constant drainage of consciousness, but must have time for recharging by sleep.

Many of man's inventions are, to some extent, copies of what nature has already produced in his body. The camera, for example, is a kind of mechanical eye. Here, however, is a point where nature, as it seems, might well take her cue from man. In our automobiles is a generator which recharges the battery while it works. Perhaps future generations will have born in their bodies some such generator of nervous force, which will make sleep unnecessary. But no one, as yet, should deceive himself into thinking that he is such a sport.

Sleep, then, is not merely conscious rest. If exhausted animals are allowed complete rest for a given number of hours, but without sleep, the appearance of exhaustion in the cells of the brain, adrenals, and liver is not much changed; but if such animals sleep for the same number of hours, the appearance of exhaustion lessens or even disappears.[1] Insomnia, if long continued, may even permanently destroy a portion of the brain cells.

Advice sometimes given, to the effect that one need not worry about sleep so long as he spends the requisite number of hours resting in bed, may be well meant as a temporary defence against worry; but a permanent policy of this kind would be the height of folly.

Causes and conditions of sleep. — If we can learn the causes and conditions of sleep, we shall know better how to control our sleeping. These causes and conditions appear to be physical, chemical, and mental.

[1] George W. Crile — *Origin and Nature of the Emotions*, p. iv.

Perhaps the chief physical cause is the distribution of blood. The exposed brains of animals and of human patients are observed to grow pale and to shrink somewhat as sleep comes on, resuming their original size and color at waking. During sleep, the blood seeks the internal organs and the periphery, especially the skin. As we should expect, insomnia develops under all conditions that cause a flow of blood to the brain, such as ice water on the hands or heat applied to the head. Put the ice on the head or apply heat to the hands, and sleep, instead of being repelled, is invited. Hence the old rule, applicable to seekers of sleep, "Keep your feet warm and your head cool."

Chemically, the upper part of the brain is alkaline, the lower part acid. The main products of fatigue are of an acid nature, especially carbon dioxide and lactic acid, and so tend to neutralize the action of the upper portion of the brain and produce sleep. An excess of fatigue products, however, may reverse their usual action and cause excitement, somewhat as an overdose of poison may produce an effect just the opposite of what is usually expected. The thyroid, beginning with the first cry of the new-born babe, partially neutralizes the fatigue products by secreting iodine. We can further weaken their action by the copious drinking of water at proper times.

Mentally, sleep is conditioned on the reduction of psychic tension, lessening the intensity of the phreno-mental currents. This is brought about by the cessation of stimuli,[1] not only of those which act on the sense organs, but also of

[1] If we keep to the definition of stimulus given in Chapter II, anything which tends to start, change, or stop the stream of transmission, then it becomes logical to speak not only of the cessation of stimuli which strengthen the stream, but also of the application of stimuli which produce the response of sleep.

others, such as those of the blood supply, which operate more directly on or within the brain. As we should expect, insomnia develops under all feelings and emotions that cause a flow of blood to the brain, such as fear, anxiety, or even joy. If the walls of the brain blood vessels are kept too long dilated, a partial paralysis of their regulating muscles may ensue, necessitating more than the usual measures for the mastery of insomnia.

Getting fatigued, and keeping fit. — The ideal neuromuscular system would be one with plenty of power, and with an "exhaust" that would sweep out all fatigue products as fast as they were formed. What can one do to approach this ideal?

The first essential is — live within your nervous income and so avoid nervous bankruptcy and keep out of the hands of the receiver, the doctor. There are many inspiring essays on rousing latent abilities, tapping secret sources of supply and becoming 100 per cent efficient. Yet common sense tells us that we have a limit and helps us to find it.

The second essential is — vary your tasks. Work most at what you love best, if you can. So shall you run and not be weary, for absorbing interest means a unified coursing of nervous currents, without clash or conflict and hence with minimum fatigue. But further, use different muscles and neurones from hour to hour: Have a hobby; send the blood to different parts of your brain; change your posture; get up and run through your "daily dozen," lean back, forget your task and dream a little; look off to the uplifting hills and rest your eyes.

The third essential is — rest little and often, as the good mower whets his scythe, if you would keep your edge keen. A fatigued nerve or muscle finds even a light task heavy, and

recovers but slowly from it. The old ideal, or vice, of working till the machinery was all run down and clattering, and then going off for a long vacation to make repairs and gather momentum, should be abandoned. Have a couch, if you can; lie down on it; take your forty winks of sleep when you need them, as your cat does, and with a good conscience. Oil your rusty nerves with rest, weekly, daily, hourly.

How to go to sleep.[1] — When seeking sleep, inventory the situation as follows: heat, light, air, quiet, comfort, sleep.

Heat. — Have the temperature of the room at a point below 68 degrees Fahrenheit. Cover lightly at first, with addition if needed. On sultry summer nights, cool the air with sheets well wet and suspended hard by.

Light. — Shut out as much as possible. One can, however, learn to sleep in daylight as broad as nature makes it.

Air. — Air should be moving, cool, moist, and fresh; but drafts should be avoided.

Quiet. — Absolute stillness is best; but customary noises may remain, especially if regular, monotonous, soothing, or suggestive of the dreamy far away. Most of us can learn to endure what can not be cured.

Comfort. — Spend the day wholesomely, and especially *with proper exercise.* Avoid high excitement in the evening. A warm bath at bedtime draws the blood to the skin. Keep the head cool. Light eating or a glass of milk on going to bed may help by shifting blood to the stomach. Avoid late, heavy suppers; and keep the bowels open, that the diaphragm may be relaxed and not distended upward. Lie as

[1] The author here offers his own method, together with gleanings from other sources.

you please if you are healthy, and with a pillow as high as is comfortable.[1] Then relax and lie still.

Sleep. — Going to sleep is a *habit*, and one in which every person should assiduously train himself from his youth up; for efficiency, and perhaps even life itself, will depend on how well that habit functions. The average person can learn either to go to sleep at once, or lie awake half the night, as he chooses. Constantly do we permit our nervous systems to be drilled in the one direction or the other, and drill establishes habit according to the laws of learning, *readiness*, *exercise*, and *effect*.

First, are you *ready* to go to sleep? Going to bed often means "going to worry," or "going to think." Be assured that those precious thoughts of yours, which at the retiring hour seem so alluring, will keep; and if you will throw them into your subconscious they may reappear later with the stamp of your genius on them. Let *bed*, at bedtime, mean *sleep*. If you insist that you "lie awake and can't help it," the psychologist insists that although you may not be able to help it immediately, you can with persistent effort. You can learn the art of sleep by intelligent practice, as you can any other art. It is largely a matter of *stimulus*, *bond* or *connection*, and *response*.[2]

Some of the more common stimuli — temperature, darkness, etc. — have already been mentioned. To aid in forming the right bond and securing the desired response, one may "talk sleep" to himself: "I am *so* sleepy. My eyelids are heavy. Every muscle is weary. I'm drifting off. Etc."

[1] Men have been known to sleep with a double sized pillow for three score years and ten and still be as straight as striplings. Whether shoulders remain upright or grow rounded is mainly a matter of inheritance, and of habit while one is awake.

[2] If these ideas need reviewing, see the topic, *Exercise*, in Chapter IV.

Or use the hypnotist's suggestion, "Fast asleep, sound asleep," repeated until consciousness vanishes. Many find that whole-hearted concentration on some monotonous stimulus, such as the tick of a clock or the sound of dripping water, or even directing entire attention persistently to one mental picture, such as that of a star, brings sleep very promptly.

If fear, as of lying awake, or some other emotion disturbs the stream of transmission and so prevents the response of sleep, one may dispel the agitation by laughing at it, or playfully exaggerating it and making believe it is terrible, or assuming toward it an attitude of indifference, or even getting up and taking a familiar series of muscular exercises. A physician who had been much tried by the insomnia of one of his patients, finally exclaimed in desperation, "Oh well, what difference does it make whether you go to sleep or not?" She caught from his words the attitude of indifference and went home and slept well thereafter.

Walter Camp advises that we refuse to fear sleeplessness, and laugh at it instead. Do the Daily Dozen and turn in. He gives some very convincing cases (in Chapter IX of *The Daily Dozen*) to show what simple exercise can accomplish as a cure for insomnia. A rather drastic device used by the author to correct sleeplessness, is to stop breathing — a measure which one who has heart trouble should not attempt — or at least to breathe but very lightly until the system is extremely hungry for air. This seems to draw the blood from the brain. At any rate, it leaves the blood stream loaded with carbon dioxide, and also, by fixing attention on a bodily process, promptly kills worry or emotion and reduces the stream of transmission. Then comes a medley of nonsense associations, followed by grotesque and beautiful

visions which fade into sleep. Sometimes the process may have to be repeated, but it is practically unfailing.

The nature of the stream of thought, the train of associations, seems to be of great importance. McDougall found that, under favorable conditions, if he could think of impersonal topics in which he was only remotely interested, he soon went to sleep; but if he thought of any subject in which he was keenly interested, and especially if he thought about himself and his personal relations, aims, or ambitions, he roused into wakefulness.[1] It is a good plan to break up any persistent stream of ideas by deliberately indulging in the veriest nonsense, either committed to memory for the purpose or hashed up extemporaneously.

A physician can, if necessary, prescribe a harmless, sleep-producing drug to initiate the sleep habit, which thereafter tends to persist.

Dreams. — A dream may be started by a stimulus either without or within the brain. The wail of the wind may be woven into a dream in the form of the cry of a baby or the howl of a dog. Bed clothes about the neck may represent, in dream form, the hangman's noose. A man whose tobacco-driven heart was given to palpitation dreamed often that he was pursued by enemies and awoke to find his heart beating violently. As sleep comes on and the usual nerve currents from the skin no longer affect the stream of transmission, the resulting sense of lightness may set up a dream of floating, or of flying through the air. As the cerebral neurones release their control of the spinal centers, there sometimes results a "jump" which appears in the dream as a fall or a shock, though the jump comes first and its dream interpretation afterward. By such various means, apparently almost any sort of neurogram may be activated.

[1] See his discussion in the *Outline of Abnormal Psychology*, p. 60.

Within the brain, also, may be influences which can serve as stimuli, such as change of circulation, or the presence of a poison. The toxins of disease, we know, may even cause delirium; and even if dreams are not sleeper's insanity, as some think, many of them are certainly much like the mental wanderings of the insane.

A great number of dreams, if not all, fall into one of two classes, the agreeable and the disagreeable, the pleasure dream and the anxiety dream. Corresponding to these are two sets of centers, those which during the preceding day or days have had too little exercise in proportion to the fund of energy they are prepared to discharge, and those which, by work, worry, or emotion have been overexercised and so are in a hair-trigger state of sensitivity. If Pawlow is right in his belief that sleep, the hypnotic state, and inhibition are all essentially the same, then we may even say that the unexercised centers, inhibited by the action of others, have been asleep during the day, but at night take advantage of the quiescence of these others to wake up and have their fling. The overworked centers are of course "sore" enough to produce, when stimulated, a dream of persecution or harassment.

Why do dreams take on such fantastic shape? The integrative centers, and also the lower self centers, for the most part, are out of function. If they were not, "I" should not be asleep, but still "there." When the government is asleep, the various "interests" have their own way about things. Yet even a dream is not thoroughly lawless. There is reason to believe that the neurones which are still in function follow, at least so long as we are in health, the laws of *readiness*, *exercise*, and *effect*.

Nightmare and somnambulism. — The "mare" in nightmare means spirit or demon; for the sense of weight on the

chest, of suffocation, and of helplessness to resist gave rise, in days of old, to the belief that the sleeping sufferer was attacked by a demon. The cause of all this, and of the dream which accompanies it, is certainly, in many cases, of bodily origin. The afflicted one should look to his health habits, especially avoiding at night a large meal or food difficult of digestion, and should sleep on the side rather than the back. Some authorities believe that certain cases, both of nightmare and somnambulism, are due to mental causes. If this is true, and if the mind is otherwise healthy, they are likely to yield to mental methods of cure. (See Chapter XVIII.)

Somnambulism includes, not only sleep walking, but in a wide sense, any unusual muscular activity during sleep, such as talking. In some cases the activities are varied, while in others the same set performance is repeated, perhaps four or five times in succession in a single night, and on many separate nights. When such stereotyped behavior is interrupted, it begins the next night at the point where it was previously broken off, indicating that the neurones in which it is lodged are isolated from the rest of the brain, and "sleep" between acts. Here is the essential condition for a dual — better named *partial* — personality: A considerable group of neurones become separated, in action, from the rest of the brain, and discharge through motor channels. As we should expect, the somnambulist, on waking, has no memory of what he did during his attack. A cure is sometimes wrought by suggestion, sometimes by waking the sleeper before the usual hour of attack, and sometimes by tying his hands to the bed.

CLASS EXERCISE[1]

With discussion of, and perhaps a vote on, the various items involved, make out a hygienic daily program, from rising to retiring, for a typical student, or a typical teacher. Show how, for the most part, after-school time and week-end time should be used.

On page 288 of O'Shea and Kellogg's *Keeping the Body in Health*, or on page 268 of Strayer and Englehardt's *The Classroom Teacher*, will be found a very helpful score card for hygienic living. Those who believe that health practice really makes for health should modify the program to fit their individual needs, keep it continuously in their rooms, and *follow it*.

FOR FURTHER STUDY

1. Partridge states that the history of the race, and of the lower animals also, indicates that food should be "varied, abundant, not too concentrated nor too easily digested. Stomach and intestines are motor organs as well as chemical laboratories and they are stimulated to action by quantity of food."[2] To what extent should we hark back to such history? If digestive organs are motor organs, decide whether we can apply to them any of the rules that hold for the exercising of striped muscles, say those of the arms.

2. What is your attitude toward the use of tobacco? Why? What do you believe to be its mental effect?

3. It is stated that even philosophers are irritable when they have a toothache, and depressed when the liver is out of order. Vague fear and apprehension often accompany heart trouble. What additional evidence do these facts offer that the corpo-mental system is a unit and ought to be treated as such?

4. If we have time and means to teach but one branch of hygiene, bodily or mental, which should it be? Why? What is

[1] Adapted from La Rue's *The Child's Mind and the Common Branches*, p. 346, by permission of The Macmillan Company, publishers.

[2] *The Nervous Life*, p. 73.

the steering apparatus of the personality? What could be accomplished in health education without an ideal lodged in the mind?

5. A very anemic boy, when standing or sitting, was quite sleepy and mentally weak. When placed in horizontal position, he became more lively and intelligent. How do you explain this? Consider also fainting and the common remedy for it; that is, laying the patient down or bending his body forward with head between knees. What bearing may these facts have on the wisdom of working in bed, as "Mark Twain" often did?

6. Review the causes of sleep and then state what you would do to produce the opposite effect, that is, to keep awake at any critical time. What would be the effect of anger in this connection?

7. Alfred the Great is said to have divided the twenty-four hours into three equal parts, giving eight hours to rest, eight to labor, and eight to amusement. What do you think of the plan?

8. According to the account of dreams given in this chapter, to what extent do they represent the satisfaction, symbolic or otherwise, of repressed wishes? Need the "wish" have been conscious?

9. One man found that he could cause himself to dream of certain joyous days in the past by having his servant place on his pillow, while he slept, a perfume which he had used much in those happy times. How would you explain this?

10. After considerable loss of sleep, there are fewer red corpuscles in the blood. In certain mental diseases, there is marked leucocytosis, or increase of leucocytes, the white, fighting corpuscles of the blood. Many diseases or abnormalities, as eye strain or intestinal trouble, have sleeplessness as one symptom. One who has overtaxed his nervous system suffers first from insomnia. If there is difficulty in securing sleep, show the desirability of having a physical examination.

11. One physician made his patients sleepy by having them listen to water monotonously dropping on a metallic surface. Comment on the effect of monotonous sounds (1) when one is in normal condition and (2) when he is irritable from fatigue or other cause.

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. Air, food, poisons, activity. (Fisher and Fisk.)
2. "The Daily Dozen." (Camp.)
3. Psychology, pathology and hygiene of sleep. (De Manaceine, Chs. II, III, IV.)
4. Identity of inhibition with sleep and hypnosis. (Pawlow, *The Scientific Monthly*, Vol. XVII, No. 6.)
5. Fatigue as related to adrenin and blood pressure. (Cannon, Chs. VI, VII, VIII.)
6. Dreams and somnambulism. (Walsh, Chs. V, XIII.)
7. Smoking. (Earp.)

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CHAPTER XI

Making the Most of Inheritance

Exercise. — Use your literary imagination: Suppose a plant, such as a bean or a dahlia, should attempt to defy its inheritance and act like a potato or a daffodil. What would be the result? If a goat attempted to serve as the family cow, or the cat as a watch dog, what success would be achieved?

Now use your scientific imagination and thought: To what extent do these lessons hold for human life? If a human being attempts to do what it "is not in him" to do, how does he succeed? In what directions chiefly do we need to learn our hereditary powers and limitations? In vocation, for example — and in what else?

What has all this to do with mental health?

The why and the how of studying inheritance. — Large-minded people plan their lives; and the essential foundation for all planning of life lies in the traits we have inherited. Goethe writes of himself,

> Vom Vater hab' ich die Statur,
> Des Lebens ernstes Fuhren,
> Von Mutterchen die Frohnatur
> Und Lust zu fabuliren.[1]

Physique, energy, a happy nature, and a love for telling stories — here are four of the inherited elements of his literary success, catalogued in a quatrain.

[1] We may translate as follows:

> From Father did my stature start,
> My life's keen enterprising;
> From Mother dear my gladsome heart
> And zest for fabulizing.

How shall we make the most of that inheritance which our ancestors have biologically bequeathed to us? The most prominent points to observe are indicated in the following questions:

1. According to my ancestry, what traits are possibly, or probably, or certainly in me?
2. How can I learn what my strong and weak points are?
3. What, accordingly, shall I attempt to be and do? How solve the great problems of life?
4. How can I organize my life effectively about my leading traits?

We shall follow this program as far as our brief study will permit.

1. **From what kind of family am I sprung?** — The object is to find out what traits are in us, and how strong they are.

The plotting of the family tree we have already considered (in Chapter V). It lends itself excellently to the tracing of any trait wherever it appears, all through the family line.

A chart for the rough study of any individual appears in Figure 13 on page 202. We plot the estimated strengths of the bodily systems, the intelligects, the affects,[1] the characteristics of the action life, and of such special talents and defects as one may care to write in. To indicate a degree of any trait above or below normal (average) draw a line from the trait name to the point, high or extremely high, low or extremely low, which appears to register that amount of the characteristic actually possessed by the individual under consideration. The chart, thus completed, shows a rough profile of the personality. Perhaps most of the qualities of intelligence, affect, and action will have to be estimated in a

[1] In order to keep clearly in mind the meaning of names of affects and the connection of emotions with instincts, review if necessary the table of instincts and their related emotions as found in Chapter III.

Note that "lust," as used in Figure 13, does not imply an immoral quality.

Extremely Low	Low	Normal. Average		High	Extremely High
		Bodily systems	Digestive Circulatory Respiratory Excretory Reproductive Endocrine Nervous Muscular		
		Intelligects	Perception Memory Imagination Thought		
		Affects (Instinctive)	Fear Anger Disgust Tender emotion Distress Lust Curiosity Subjection Elation Loneliness Appetite Ownership Creativeness Amusement		
		Traits of action	Energy Initiative Persistence Self-control Reliability Resourcefulness Esprit		
		Special talents and defects			

Fig. 13. — Charting a Personality

general way, as they exhibit themselves in the all-round affairs of the ordinary environment. Some of the traits can be tested out more accurately. Special qualities like "interest in politics" or "fear of disease," even if not carefully graded, are at any rate well worth noting as accurately as possible.

Finally, since traits may change with age, it is well to compose life sketches of immediate ancestors at least. Our own personalities will change with the passing years, and the past of our forefathers will help to indicate our future.[1]

2. **What traits have I shown?** — We can not undertake to demonstrate, by detailed analysis, how to work out a complete answer to the question, What traits have I shown? but can only suggest, by a few hints, some of its most important aspects.

Have I been healthy?
Have I had much sickness?
Am I ever nervous or mentally ill?
How have I borne trouble?
In general, what kind of child was I?
In what subjects have I made my best school records?
What tests have I passed?
What is my favorite line of reading?
What have been my chief occupations?
What success have I had in them?
Have I accumulated money?
For what have I spent it?
What are my chief likes and dislikes?
What are my favorite amusements?
What most provokes me?
What most pleases me?
How have I used my leisure?
What would I do if I were rich?
What have I worked hardest for?

[1] A combined graphic and outline method of personality study which it is interesting to compare with the above is that of Decroly, found on page 275 of *The Decroly Class*, by Amélie Hamaïde. (See References at close of chapter.)

What do I most wish for?
What sort of people are my chief companions?
Have I been socially successful?
Am I a leader? If so, in what?
What in my past am I most proud of?
What am I most ashamed of?
Have I shown good character?
What has been the nature of my sex life?
What traits do sincere friends find in me?
What traits do expert judges of personality find in me?
What are now my chief ambitions?

If someone else could take on my personality and act it out, so that I could study myself objectively, could see another person who appeared like myself, could hear my voice and my speech coming from his mouth, and could watch in him the duplicate of my behavior, what would I probably think of the exhibition?

3. **What should be the plan of my life?** — James A. Garfield, president-to-be, before undertaking a seminary course, consulted a physician as to whether he should attempt it. The physician, after taking note of his various bodily systems, advised him to go ahead, to work hard, and not to be afraid of overwork. The following is a part of the physician's report of the consultation:

> I examined his head, and saw that there was a magnificent brain there. I sounded his lungs, and found that they were strong, and capable of making good blood. I felt his pulse, and saw that there was an engine capable of sending the blood up to the head to feed the brain. I had seen many strong physical systems with warm feet, but cold, sluggish brain; and those who possessed such systems would simply sit around and doze. Therefore I was anxious to know about the kind of an engine to run that delicate machine, the brain.
>
> . . . "You have the brain of a Webster" [I told him] "and you have the physical proportions that will back you in the most herculean efforts. All you need to do is to work. Work hard, do not be afraid of overworking, and you will make your mark."

"What solution do my traits suggest for my life problems?" one may ask. What are the chief life problems?

For most of us, they are *health, work* — including the making of a living and the finding or making of suitable habitat — *recreation, friendships and other social relations, marriage and family life, citizenship, and a philosophy of life* — which must include also a philosophy of death. The weak man must not try to follow the military, hard-working career of Garfield. But we can learn much from Charles Darwin, who found himself compelled to reduce his working hours to three or four a day and still accomplished wonders. So with the other big questions. Self-revelation may show it to be a duty to marry, or to refrain from marriage — or at least, from parenthood. Nor does any one church fit every disposition or offer a philosophy of life that is universally satisfactory.

4. How can I let my leading traits lead? — In school, we elect our "major" and our "minor" subjects, and we must do the same in life. A brain is like a tree. It sends out branches of interest on all sides, if it is well formed; but its chief natural tendency organizes them all, carries them all along upward, unifies them and gives them meaning. The skyward tendency for each of us is central purpose. This gives unity. Without unity comes conflict, unhappiness, and perhaps mental illness.

"To learn the truth at daybreak and die at eve were enough," said Confucius, thus revealing his leading traits as those of the truth-seeker. Darwin put down as his own leading trait the "love of science," backed up by "unbounded patience in long reflecting over any subject — industry in observing and collecting facts — and a fair share of invention as well as of common sense."

Yet each brain center should have, so far as possible, its appropriate exercise. And the subordinate interests which the lesser centers represent can usually be organized so as not

to hinder the major purpose of life, but to contribute to it. Let the main job lead, followed by a retinue of hobbies.

CLASS EXERCISES

Examine and criticize the device for charting a personality, found in Figure 13. Duplicate a sufficient number of copies to supply the class and make a study of some personality known to all, as the present president of the United States. One good way to proceed is to let each member of the class, independently and without discussion, mark his chart, and then discover, through conference, how much of agreement exists or can be brought about. Full information and great exactness can not be expected. In case of a mature individual, some suggestion as to sexual "lust" and "reproductive system" may perhaps be secured from a consideration of love affairs and number of children.

Which traits have probably contributed most to shape the subject's personality and career?

FOR FURTHER STUDY

1. Show that a person's study of himself is much like a community's or a country's studying its history and present conditions as a guide to future action.

2. Is there not danger of too much self-consciousness in the study and management of traits? Or is this like the self-consciousness of the early stage of learning any art, which passes away with practice? If you expect to perform well on yourself (as on a musical instrument), can you hope to do it without diligent application?

3. Show what help self-analysis may give us by discovering, in our past lives, motives and tendencies of which we were then unconscious, or only dimly conscious. How should this influence mental health?

4. Would you advise one with a rather weak mind or many notable defects to study and analyze himself? If not, who should study and guide him?

5. A certain young man was taken from an orphan asylum in babyhood and has no knowledge of his parentage. Show the disadvantages of this. What unusual caution is needed on the part of one who may consider marrying him?

6. If we can not see ourselves just as others see us, do you think we can see our relatives as others see them, and so view our actual or potential selves? Discuss.

7. Can you name any traits or qualities that all children must develop as they mature? If so, what of those children who have no inheritance in this direction? Illustrate.

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. Inheritance of special traits. (Davenport.)
2. Methods for discovering one's own traits. (Parsons.)
3. Study and interpretation of the self. (Yerkes and La Rue.)
4. Franklin's method of self-culture. (Franklin.)

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CHAPTER XII

Self-Assurance and Self-Management

Exercise. — Give any notable historical or biographical examples of self-control that you know of.

Which have the greater influence on our self-control, the affects or the intelligects? Why? Which lie nearer to action? On which should the art of self-management concentrate?

Power through self-assurance. — "Self-trust is the first secret of success," says Emerson. And again, "Trust thyself; every heart vibrates to that iron string." The one who is self-assured, self-confident, poised, suggests instinctively to others that he has found the joyous and successful way, the way to live, or to do whatever he is doing. Tom Sawyer shows us that. When he is condemned to lose his holiday and to perform the noted task of whitewashing the board fence, he tackles his punishment with such an air of self-satisfied joy that the other boys, on their way to the picnic, feel that he is having a fine time, and stop to purchase, at the price of precious toys, the privilege of doing his drudgery.

Self-assurance is brain morale. As we have seen, the brain, from our standpoint, is not one organ but many organs coördinated and unified by the action of the capital centers, the integrative centers. Experiment shows that when the learner believes he can master his task, the learning goes on much more successfully than when he believes otherwise. As the attitude and action of a country's capital, its central government, tends to nullify or intensify whatever is attempted elsewhere in that country, so does self-assured

integration, or the lack of it, affect the activities of the whole personality. Naturally, and wisely, we seek those who appreciate us and who build up our self-assurance. "Faith is the substance of things hoped for." It enables one to bring out of himself all there is in that self.

A general policy as to the instinct-emotions. — Managing one's self means, chiefly, the managing of the instinct-emotions. But to manage well, we must have an aim in mind, and formulate a general policy for achieving it.

For centuries, the aim of asceticism seems to have been to kill off the emotions, or at least all pleasurable feelings — and there are many partial ascetics among us still. The Bohemian, on the other hand, would let each emotion, as it appeared, wax strong, possess him, and express itself. Most of us wish to stand somewhere between these two extremes. Drummond, interpreting Christianity, selects one affect around which to organize all others: Love (based probably on tender emotion, parental feeling) is " the greatest thing in the world."

Each of us should inventory his instinct-emotions, estimate the inherited strength of each, and determine, according to his aims in life, which of these affects shall be reduced and which developed. Probably such emotions as fear and anger should be killed off or left dormant, for it is doubtful whether, under modern conditions, there is much real use for them. Others, in their milder forms at least, should be assiduously practiced and brought to perfection by learning.

Learning to feel and not to feel. — Management, control, is a matter of learning (1) to get the mental state (and so the behavior) that we want, as when we pluck up courage, and (2) to avoid or get rid of what we do not want, as when we dispel fear and act courageously.

Now learning, as we have found, has three chief factors: (1) stimulus, (2) path, bond, or connection through the nervous system, and (3) response. If we would manage ourselves well, we must supervise these three factors. If we would practice an emotion, we should arrange for a suitable stimulus to rouse it, should give it right of way among our thoughts and feelings, and express it in our behavior. On the other hand, if we would "unlearn" a feeling (for this is in one sense possible), we should change one or more of these three factors in such a way as to change or destroy the feeling.

What, in general, are the changes that we can make in these factors? They appear to be three. To make our thinking concrete, let us consider what we can do with a stimulus. (1) We can either apply or remove it, as when we put tempting food on our table or take it away. (2) We can reënforce it, or modify and perhaps overpower it. A student of the piano could play before a small audience but not before a large one (reënforced stimulus to fear) unless her teacher stood near her, in which case the fearsome effect of the audience-stimulus was overpowered. (3) We can strengthen the attachment of the stimulus to some bond and response, or reattach it to another bond, or another response, or both. A dog (stimulus) which is at first feared and shunned by a child may come to be loved and sought as a playmate.

The same or corresponding three types of change can in general be made in a bond through the brain, or in a response.

Let us take up in order the managing of stimuli, managing the channels of the stream of transmission, and managing responses. We can not hope to exhaust the discussion of so complex a subject, but simply to offer a few facts and suggestions which may help in the solving of personal problems.

The managing of stimuli. — First, we can often apply or remove stimuli at pleasure. If we seek an affect such as amusement, common sense tells us to put ourselves in the presence of that which produces it, and especially to go among other people who are experiencing it. But let us avoid stimuli that disturb. We must learn what unbalances us — coffee, crowds, the man with the overbearing manner, late socials, belligerent women on committees, or what not — and either pass them by or be ready to cope with them. It is by this plan of removing undesirable stimuli that the American people pretty generally have attempted to deal with immoral sexual lust and the appetite for alcohol. But in this "land of the free," almost every variety of stimulus has rather free access to everybody. Something further is needed.

Secondly, we can reënforce a stimulus with others like it, or neutralize it with opposing and more powerful influences. If, as teachers, we want to feel kindly toward some pupil whom we instinctively dislike, we should not only look at his repulsive person but should visit his home to find out the influences that have made him what he is. Ipecac in alcohol causes the drinker to dislike his beverage; it is an opposing influence. Temptation is often overcome by looking at a photograph of some one whom we love and respect, or at a ring that has special significance, or by reading some book of power. One who has a besetting sin should keep some such restraining suggestion constantly available.

Thirdly, we can strengthen the attachment of a stimulus to its original bond and response, as by repetition, or reattach it otherwise. The farmer's orchard, which once tempted us to steal, may come, with culture, to suggest honor and the square deal. The roomful of pupils or the audience,

once regarded as a group of enemies or hostile critics, may finally be met as friends.

Managing the channels of the stream of transmission. — Observe first that the stream of transmission in your nervous system includes *you*, your thought, and feelings. You are the stream of consciousness that flows from stimulus to response.

First, then, we can do much to create a feeling simply by suggesting it to ourselves, as the actor does; and by acting it out, we can turn the currents of our stream of transmission almost bodily in the desired direction. But we can also strangle an evil spirit (or a good one) in its inception, by an act of will, as we can put out a match with a puff of breath. Neglect, however, until there is a real conflagration or a passion, means that heroic measures must be used.

Secondly, we can strengthen a feeling by means of others allied to it. If timidity inhibits our social feeling, we can throw off the inhibitor by making use of the old game or even the old joke. To fight the unwelcome emotion which has taken possession of us we can use a mental counter-irritant; that is, excite some other part of the brain and draw the energy into it. When worried, sing, play a game, or draw a counter emotion from the dear old book. Go somewhere else and do something different. Start other currents in your stream of transmission, and use your sense organs and muscles especially as a means to doing it. So does one learn to pit one trait against another.

Thirdly, we can give an affect a new attachment and a new expression. We can draw off its energy (1) on the same level, the instinctive level. An excess of athletics among students finds here its great excuse, for it is thought to consume the emotional power which would otherwise break out in various

and worse excesses. But the currents of emotion may also be directed (2) to a higher brain level, "sublimated." Pride may make us work better in a good cause. A great poet is said to have written some of his best poems as a result of anger. We can use the rising mental tide, as we use the tides of ocean, to lift our burdens.

Character culture. — Evidently, the course followed by nervous energy as it goes thrilling through the brain depends on what channels it finds open, and this depends largely on the conformation of the psyche, that is, on general character and its culture. What can we do daily to keep some affective channels appropriately open and others appropriately closed?

Push toward a great purpose. — The fundamental is a strong stream of transmission directed full tilt toward a large and worthy end. Minor and petty emotions can not sway it, but are made to feel that they must fall in and work in harmony with the major mental trend. It is well, however, to give each brain center its appropriate exercise. Appropriate means "in harmony with the total life purpose." If you are a ditch digger, but musical, give these musical centers a chance to have their fling. If you desire a fine reputation, earn it in the service of a cause greater than yourself. Try to satisfy your neurones as a good government satisfies its people, so that disgruntled elements do not get together and rebel. If there are in your brain unsatisfied centers which are constantly urging you toward a different vocation or avocation, or love life or social adjustment or religion, then self-management may continue to be a problem for you until these other problems are solved.

Have a time for self-examination. — Many find it an excellent plan to combine such self-examination with daily devotional reading and meditation, setting themselves, in advance,

to meet the next trial. Also, since one must be his own repair man, he must be able to find what, if anything, has gone wrong. "What ails me? Am I jealous because Jones has bought a new car while I can not afford one? Has that lascivious moving picture excited me sexually? Has the sudden death of my friend made me afraid that I may 'go off' in the same way?" Also, "What would I prescribe if someone else were in my condition?" Then let us apply the remedy, act, and forget ourselves. So do we learn to introspect impartially and at the same time cultivate outminded concentration.

Here is the place for the mental "daily dozen," or rather, the daily fourteen. The essential idea underlying the daily dozen for the body is that of stretching, mildly exercising, and toning those fundamental muscles which primitive man used daily, so as to make them serve a modern ideal. May it not be equally beneficial to reach and appropriately tone those fundamentals of the mind, the emotions which primitive man experienced frequently, in order to draw them also into the service of a modern ideal? I am inclined to think the average person falls into excesses from time to time just because he has not taken his daily fourteen — referring of course to exercise or management of the fourteen emotions named in the list adopted from McDougall.

What can we do as we review our fourteen points? Taking up *fear*, we can assert our faith that the universe is friendly, consider specific cases where we have been fearful and what to do about them if they occur again, and end with the reflection, "Though I walk through the valley of the shadow of death, I will fear no evil." *Anger* may remind us of Drummond's statement, that ill temper is "the vice of the virtuous," and that "for sheer gratuitous misery-producing power" it stands alone. The consideration of *subjection*

and *elation* will make us resolve to be the kindly equal of all, neither the inferior nor the superior of any. Finally, regard for *amusement* will teach us to fill our days with good humor, and to laugh as a means to mental health.

Managing responses. — The three general possibilities are no doubt clear already. (1) We can, within limits, create or destroy a response at will, especially in the beginning, as when we dance or refrain from dancing. (2) We can reën-force a response with others like it, clenching our fists when we have contracted our brows, or overpower it with others opposed to it, breaking into a laugh, more or less forced at first, instead of indulging any anger-response at all. In this way we can draw the energy of the undesirable act into a different channel, and perhaps onto a higher level. (3) We can reattach a response to a new stimulus, or a new affect, or both. It is surprising to find how many situations in a teacher's life may appropriately be met with levity, humor, laughter.

How far one may legitimately "make believe" without being classed as a hypocrite, how far he has a right to simulate desired responses which he does not yet really or fully feel, each must decide for himself. But the brute fact is that through the control of our sense organs and our muscles, and especially by acting out what we want and refusing to act out what we do not want, we have a mighty power to determine the fundamental currents of the stream of transmission, and we should take advantage of it.

The higher personal culture. — Probably every one, when he comes to the age of reason, should make himself over somewhat. Brain centers, like muscles, have a tendency to remain in a childish state of undevelopment unless they are exercised and disciplined. It is partly for this reason that we see, among adults, so many instances of childish emotion

and behavior. Also, parents and teachers, in spite of their good intentions, may have miseducated us into some bad ways. Very likely we need to reëducate some such elements — habits — out of our personalities. We should begin with those that are easiest and most interesting to conquer, that occur most frequently in our plan of life, and that best prepare the way for further progress in mental hygiene. Let us beware of lowering our personal morale by failing, in the beginning, in something too difficult for us to attempt.

So far as the affects are concerned, we have dealt here with the common instinct-emotions only, and with them but very briefly. For their more detailed treatment, and for the discussion of the derived emotions and the building up of sentiments, a more advanced course in mental hygiene is needed.[1]

CLASS EXERCISES

1. Report mild cases, such as irritability of temper, or a teacher's nervousness in the presence of pupils, which show need of treatment, reëducation, self-management. Apply the teachings of this chapter to such cases, giving specific directions as to what course of training the individual should pursue.

2. On the basis of suggestions found in this chapter, complete a "Mental Daily Fourteen," to be used, perhaps, in connection with a daily period of meditation.

Note especially how many of the primary emotions we have to educate ourselves *out of*, and how few are to be positively cultivated. What can be done about it?

FOR FURTHER STUDY

1. When I control myself, which part of the brain acts as "I" and which as "myself"? Explain.

[1] The student who is interested in this more advanced work will do well to read William McDougall's *Social Psychology* and his later *Outline of Psychology*.

2. Give devices for controlling an appetite that leads to the taking of inordinate quantities of food.

3. The chief of police of Des Moines, Iowa, had drunken offenders photographed so that when they became sober they might see themselves as others had seen them. Explain the principle involved. Could it be applied in other ways?

4. What would you advise to relieve one who is given to the habit of nervous hurry? What is the probable cause, release of too much nerve energy, or approaching fatigue — or may there be different causes in different cases?

5. What effect does it have on an emotion to think it over quietly? How can we make use of this piece of psychology for purposes of self-management?

6. What effect is it likely to have on one's self-control if he does not sincerely wish for it, or doubts his ability to attain it? Prepare a brief self-affirmation to be used by one who is having a struggle in self-management.

7. Some assert that self-management is more than usually difficult in certain cases because of conflicting traits inherited from the two sides of the family. Do you know of any such cases? Have you an opinion?

8. It is said that self-preservation is nature's first law. Then why should there be any difficulty about self-control? What does modern civilization have to do with it?

9. If you wished to lose your self-control, what measures would you take to insure success? What lesson can be learned from this?

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. "Self Reliance." (Emerson.)
2. Inspiring examples of self-respect and self-confidence. (Marden, Ch. XIII.)
3. "Orderly association as a condition of mental health." (Burnham.)
4. Plateaus in development. (Peters, Ch. XXVII.)
5. "The interrelations of emotions." (Cannon, Ch. XIV.)
6. Derived emotions, and sentiments. (McDougall.)

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CHAPTER XIII

Work and Play

Exercise. — Imagine a world in which there is no work to be done, or where it is all done by machinery, so that man spends his whole time in play and amusement; a world in which there is no play or relaxation, but work only; a world in which there is no bodily work or play, but only serious existence, contemplation, solemn discussion.

Human nature being what it is, what good and evil should you expect to find appearing under such conditions?

Purpose of the chapter. — The object of this chapter is not to give detailed vocational or avocational guidance but to suggest the importance, for mental health, of proper adjustment with regard to work and play, to give suggestions as to the building of ideals and to outline general methods accordingly.

Nature of work and play. — "Play," said a small boy, "is what you are doing when you don't want to do anything else." Even if he grows to be a philosopher, he can hardly improve upon that statement. Work, then, is what we are doing when we should like to do something else.

Work, as commonly thought of, is the activity of a stream of transmission as ordered from *without*, responding to the bell, to the boss, to the demands of that great commander, Daily Bread. Play is the activity of a stream of transmission as determined from within the brain, by the balance of power, especially when power is abundant, among its own centers. It is neural exercise, often under low tension, and without restraint. In work, "have to" violates "want to." If there is

no such conflict, our daily "work," so called, becomes play. Adam and Eve must have been told to do something which they did not wish to do; for if not, work in the sense of occupation, would have been no curse, nor is it now.

While either may involve muscular activity, both, from our standpoint, are essentially phreno-mental. One may lie on his back on a bed of violets, working hard with ideas or playing with dreams. But work is the discharge of phreno-mental energy with somewhat disagreeable effort, effort either in the release of the energy or in guiding it along the proper channels, or inhibiting the outflow of current from centers which for the time must patiently resign themselves to a state of high potential without overflow. Certain parts of the brain, then, must be controlled by other centers, usually the integrative centers. To this extent, work means mental conflict and waste — a fact which prompted an eminent psychologist to make the surprising statement that "all work is a waste of time." Play is more unified, harmonious, economical of soul power.

Relaxation. — We found that pleasure dreams are apparently due to the discharge of centers which have lain asleep during the day. Herein are play and dreams alike; for play, with most, is the frolic of those neurones (and muscles) which, compelled to keep their energy "corked in" during working hours, now cut loose, like horses released after a long period in the stall, and enjoy their hilarious freedom.

The central feature of relaxation is also the central feature of sleep, namely, the release and rest of the integrative centers. Patrick is of the opinion that this may be brought about, or at least sought, through play, laughter, profanity, alcohol, or even war.[1] Certainly it is essential, if the individual would

[1] G. T. W. Patrick — *The Psychology of Relaxation.*

stay sane and society would stay civilized, that our periods of tense integration shall be alternated with intervals of relaxation. One expert advocates ten hours of outdoor play a week, the reservation of every Sunday for rest from regular duties, and three weeks' continuous vacation each year.

Laughter, which every one should feature on his daily program, and which can usually be carried in considerable quantity into the workroom, gives a brief, wave-like epitome of the daily tidal swing from tension to relaxation. Your friend starts a story and integrates your neurones as if for serious thought. The accumulating energy is tripped loose, overflows into your diaphragm and mouth muscles, and you relax into laughter.[1]

There may be as many methods of relaxing as there are individuals. Laughing is valuable, for one reason, because it changes the posture currents in the stream of transmission when our muscles are too much set for "business." But a few gymnastics may do the same, or watching vaudeville, or the reading of Scripture, or dancing.

A human heaven. — Man is always building a paradise — and then moving out of it into a new and better one. But while we go muddling on, it is worth while to try to picture to ourselves what actually would be the nearest approach to perfect conditions of living here on earth. Born as we are, with so many ages of struggle behind us, we have inherited nervous systems that "secrete" much energy, energy which must be discharged in some way. If we try to picture a condition of bliss for an average nervous system, we find it in mounting cumulations of power alternating with pulsations of discharge along channels fitly determined.

[1] Kings, during the Middle Ages, kept fools and jesters to produce merriment. Laughter at meals was thought to aid digestion.

Granted this fundamental, order becomes the first law in our heaven as in Pope's. The cumulation of energy must not be so tense as to be tormenting. Its discharge must be satisfying — and that ought to mean without waste or confusion, or to the point of exhaustion. We must avoid extreme conditions of stimulation, inhibition, and fatigue.

Further, each of us has an individuality which really ought to be spelled with a capital I. We have by inheritance some phreno-mental centers that are strong and others not so strong. Ideally, we should follow our bent and get into the particular occupation we can enjoy most, where we can let ourselves out like a bobolink in a songburst, expressing ourselves, serving society, serving a cause. Surely it is the lazy, work-shirking man who ages fast mentally, while the happy worker, finding his life a perfect vacation on earth, remains elastic and capable of adaptation — in other words, young.

Finally, as indicated above, we must relax and gambol and see the humor of life, enjoy friendship and art and religion and other good things till we release the delicate integrative centers, drain any others which have not had their heyday, keep our muscles properly postured so that our minds may be also, and earn our daily health by paying the necessary number of footpounds of "work" in the form of exercise.

How can we avoid the chief impediments to salvation and so enter this human heaven?

The right work. — How can one make sure of choosing the right vocation? We can not here enter into the problems and methods of vocational psychology; but the central necessity, from an intellectual standpoint, is to make a map, or graph, or table or inventory of one's major traits and see how it coincides with or conforms to the charted or tabulated major requirements of proposed vocations. From the standpoint

of the affects, we may observe that those men and women appear to choose most happily who follow a long-span enthusiasm. Also, they certainly seem to reap most satisfaction who choose, not on the ground of the material gains which they hope for beyond a comfortable living, but rather from a consideration of the devotion which they can bring to their chosen pursuit. Finally, as in marriage, so in vocation, it is ideal to have head and heart agree.

If only we could make our choices at the time in life when our wisdom, presumably, is at its highest! But perhaps we can choose, as if from that time, what will satisfy most fully as we look back on its long perspective. I beg to change, for this purpose, those dying words of Horace Mann. Instead of "God, Man, Duty," let us make it "God, Man, Joy." Our highest enthusiasms seem to point the way to the greatest service in the cause we were born for. The sense of a life mission and a mission to man may be airy and intangible, but it is that which enables us to fly. The returned soldier, broken in body or mind, a fraction of his former self, often can not be reached until convinced that the world still needs him and that he can do something for it. Such a conviction restores his self-respect, self-assurance, and self-assertion. Life again becomes worth living and work worth doing. Success is in sight, and success is a great creator of optimism and health.

If you think you are in the wrong vocation, you are probably quite normal; for most people are said to pass that judgment on themselves. Parental choice, or an early development of transitory traits, or the "must" of money, or some accident of environment, may have pushed you into the wrong position. Even so, life is not merely a job. It is also love, and family, and friends, and other divine things — and if the job makes these possible, angels might well apply for it.

It is the *feelings* connected with work which count, and count for or against mental health. Investigation indicates that the comfort of the mental worker depends more on his own mental state than on the physical condition about him, such as the condition of the atmosphere. Head and hands do not labor happily if the heart is not there, or is rebellious, or distracted with responsibility. Even if our work does not fully express all our aspirations, it can at least enable us to sublimate the unexpressed. The thwarted musician can at any rate sell musical instruments — and there may be a way out. Occasionally we find a man who boldly throws down in middle life an old form of service and starts a new one. Another gradually shunts into a "side line" and experiments with it until he is sure of his talent. In any case, it is a pretty part of the game to keep struggling till we win our way to work into which we can throw ourselves with abandon.

The right recreation. — The old warning about Satan's finding "work" for certain people is probably not true; it is a bad kind of play that he provides. In certain of our automobile manufacturing towns, some seventy per cent of the workers can be trained to efficient production within three days, and they work thereafter on a five or six hour schedule. The modern machine has taken the place of the ancient slave, and education for leisure is needed.

Choosing our work fixes largely the supplementary recreation. We want that kind of avocation which, combined with our vocation, enables us to obey the rules for maintaining mental health — to keep our blood stream pure, economize our brain battery, seek suitable environment, keep in touch with the world, and so on through the list.

Recreation, in spite of its name, is not complete rest. The only way to get that is through sleep. But recreation

should bring a reduction of tension; stern, competitive play is as exhausting as business. Our play should bring also a change of neurones; we should be dual natured enough to shift the working half of us into quiescence while "the other fellow" within us has his sport. And finally, recreation should really create anew, transform us by the renewing of our minds, through the proper posturing and perhaps prolonged exercise of the muscles. The deeps of the stream of transmission support and form the upper, conscious currents.

Order for the day, and for life. — The teacher goes before her class unprepared, steps on the nervous accelerator all day, and finishes with a constitutional fatigue and a headache. To avoid waste, worry, and "nerves," plan your day. But life is just a journey of days. *Ab uno, disce omnes.* Foreplanned is forearmed.

We must learn, in planning, to recognize and emphasize the big things; and in executing, to keep our feet disentangled from the web of trifles. There is but one big idea in a book, but one chief point in a lesson, and in most days there are few sizable events. Let us prepare for these and in despatching secure them, maintaining toward the endless bombardment of minor matters a self-assured, high-level integration.

Living in the eternal now. — Would you do something which nature never seems to do? Hurry and fret. Probably we hurry because we feel our finitude — only so many minutes till train time and so many years till death. Let us overcome our finitude by living the eternal life — which means a life of a kind good enough to last forever.

To hurry is to place a too heavy charge of powder behind a moderate weight of shot and drive the whole load into ineffectual scatteration. Hold your nerve. Watch the good

athlete; he picks up the ball, looks, poises, throws deliberately, scores. The mind of the tennis player does not hurry, even in a whirlwind game, though his muscles may. He sees ahead and takes his time. Play the game of life at such a pace as will enable you to keep your head.

You are most efficient when nothing stands between you and what you are trying to do; when you are lost in your activity, achieving your purpose; when there is no interference by emotion, but all the emotion that is present contributes to getting deeds done; when there is no impeding inhibition, no besieging by any unsatisfied appetite which has constantly to be inhibited.

"Now I shall enjoy this." That is the ideal attitude in which to approach anything, work or play. Do you want, in a nutshell, the royal rule of mental hygiene? It is this: Keep yourself in such condition that you can enjoy yourself — enjoy your *self* — in the occupation of the hour.

CLASS EXERCISE

Draw up a set of resolutions such as a worker might well use as a kind of Constitution to help him maintain the best working attitude, and which would also serve to induct beginners into the spirit of the true workman. For instance, one resolution might read, "I will respect my work, and myself as a doer of that work."

Send to The National Institution for Moral Instruction, Washington, D. C. (Care of National Capital Press), for a copy of "The Code of Successful Workers: Resolutions They Make for Themselves."

Compare the two sets of resolutions.

FOR FURTHER STUDY

1. Viewed from the standpoint of mental hygiene, what are the most likely evils to be expected from child labor? Is there any child labor in the schoolroom?

2. Why do we not laugh so heartily at an old joke as we did when it was new?

3. According to your observations, which live longer, workers or idlers? Or is longevity inherited with little regard to how one spends his time?

4. Some find that the most original and valuable ideas as to their work come to them when they are removed from it, as on vacation. Why should this be? What do you think are the brain conditions of greatest originality?

5. Discuss the relation to self-control of proper work and recreation.

6. Show how unfortunate emotions, which may have to be suppressed during working hours, can be drained off during the play period.

7. What is the relation between fixed ideas and fixed posture? How can recreation help?

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. Points of a good job. (Cabot, Ch. IV.)
2. How work may be saved from drudgery. (Peters, Ch. XXIV.)
3. Sidelights on play. (Cabot.)
4. Psychology of relaxation. (Patrick.)
5. Mind and work. (Gulick.)

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CHAPTER XIV

Sex and the Love Life

Exercise. — Scan a number of short stories — perhaps some novels also. What per cent of them deal with sex and love? Why is this?

Comment, if you can, on the treatment of the theme. Is it generally low, ordinary, or spiritually exalted? Try to tell why.

Necessary attitude of mind. — Discussions of sex require, from all concerned, an attitude of sanity and broad-mindedness. This very brief treatment attempts only to clear up general aspects and insure a healthful point of view. Sex education of children is dealt with in a later chapter. When perceptions or ideas that are deep and old in racial history enter the mind, they tend to arouse strong emotions; and emotion, as we know, is nature's preparation for action. It was largely for this very reason that discussions of sex were long avoided. Better, it was thought, to let the dormant sex centers lie unstimulated. But stimulated they are bound to be, for in these days everyone is eating of the fruit of the tree of the knowledge of good and evil. In the face of this situation it is clearly better to be guided by wisdom than betrayed by ignorance. Besides, it appears to be mentally healthier to contemplate ideas of sex apart from their native affective accompaniment, inhibiting and damping off the emotional glow through self-control. These ideas can be built into sentiments of personal success and pleasure, family joy, social service, and even spiritual exaltation.

The genetic view. — Nature long ago decreed that the mothers of the race shall be women. Herein she established the first great division of labor; for motherhood meant restriction, confinement, and nursing at home, while fatherhood, involving support of the primitive family, meant foraging and fighting abroad. In general, those men were selected for survival who could best manage nature and adapt themselves to her ways, and those women survived who could best manage man and adapt themselves to his ways. Man became the " lord of creation." His work, including fighting, had to take precedence at critical times to insure bare preservation. Woman and " woman's work " were forced into second place. Even yet, the most military nations give women least freedom. Yet the freedom of woman, on the one hand, and on the other, the free-willed coöperation of both sexes for the social good, are a very suggestive indicator of the degree of civilization in any country.

We are descended, we may be sure, from those in whom the flame of sexual passion was strong — strong enough to interrupt everything else. Those in whom it was weak were among the unmated of their day, and left no offspring. Further, the flame developed early. Long after primitive days were past, the length of the average human life was only about fourteen years. Parents of the surviving type had not only to beget, but to live long enough thereafter to bring their children to the age of independence. No doubt they mated early, as early as the young men of the tribe could fight off their elders and win wives for themselves. And finally, the sex instinct was crude. A glowing complexion was nature's rough index of female health, and the male instinctively chose it as such. Just as instinctively did the female trust her destiny to the man

possessed of a large frame, broad shoulders, and muscles of power.

Here, then, is the modern problem due to our ancient inheritance. A powerful passion sweeps into our youthful souls before we have gained self-control, while the wisdom and the inhibitions of the upper brain are still unripe; and this unruly kingdom must be taken over by reason and soulful sentiment.

Complications of individual development. — Every bird sees the world from its own nest, and each of us sees sex from the standpoint of his individual experience.

Too commonly, our parents have pitted trait against trait in a way unwholesome. To ward away our naïve childish interest in sex from unconventional frankness or openness, they have resorted to the rousing of disgust for the subject, or shame at its mention. Religion may have taught that conception and birth are so much sin and iniquity. Boys may have learned to laugh at sex and expect girls to blush at it, as if Eve were to blame for the whole situation. Girls are often taught to act, and even to think, as if they were sexless. This vital instinct, however, is not to be ignored but rather should be deftly guided. Ignorance of this subject is common, and imagination, feeding upon misinformation, often maintains smoldering, destructive, nerve-sapping emotions. Bad habits are likely to be formed or strong aversions to natural sexual relationships built up.

The sexual ideal. — There are two partial and hence unsatisfactory views of sex, the merely physical and the merely spiritual. The first is physiological: Spermatozoon enters ovum; conception takes place; and later, birth. So far, we are at one with the lower animals. But the physiological functions are incidental in the communion of large-minded

lovers, except that a new life, born of their own, makes of the twain one flesh.

The merely spiritual view — or perhaps we should call it sentimental — is that love is some kind of lofty soul flight, too exalted to have anything to do with unclean " flesh " or " base passion." The result is often a consuming fire. A ship might as well affect to despise the flame that produces its propelling power.[1]

Ideally, we should have knowledge, surely. Otherwise, the subject has all the lure of the side show which we have not yet entered. When we are acquiring such a bulk of information about the world-full of things about us, why should we remain as ignorant as the cave man about the origin of life? We can hardly expect to make progress in the fine art of love so long as we proceed in ignorance of some of its fundamentals. Let there be knowledge up to the point of one's sexual development, and enough more to enable him to guard against dangers and make choices for the future.

But knowledge alone is not all-sufficing. We must define an ideal for these modern days, when the tendency is so much toward extremes of all kinds. Less should be made of the physical act and more of the psycho-social enjoyment which involves legitimate appreciation — admiration without the desire of possession. The overemphasis on lust, unfortunately fostered by many publications and by divers other means, should give way to a more normal attitude in which sex is merely a part of personality. It is the ideal of natural

[1] The struggles of the saints should warn us. Saint Jerome, though settled in the desert, found himself, in imagination, "in the midst of Roman pleasures," and "amid the choirs of maidens." " Pallid was I with fastings; and in a frigid body, yet my mind burned with desires — the flesh being dead before the man, and fires of lust alone boiled up; and thus must it be with all who, like me, endeavor to sacrifice the flesh to the spirit."

restraint, of sensible regard for the normal tendencies of human nature — a social state that is not blind to sex impulses but knows how to cope with them.

Sexual stimuli. — What stimuli shall be considered sexual? Perhaps we can best draw the answer from Thorndike's summary [1] of sex behavior as a part of original nature.

> To the situation, "a certain period of life and, in the male, a certain interval since the last discharge of spermatozoa," the response is a restlessness and attentiveness to human beings of the opposite sex who do not arouse inhibiting responses of disgust. To man in this situation the presence of a not too young or old person of the opposite sex arouses the responses of display, aggressive in the male, coy in the female. To the total situations resulting, the female responds by coy advances and retreats; the male, by caressing pursuit and capture. The former is satisfied by, and so instinctively maintains, whatever augments the aggressiveness of the male; he responds similarly to the hopeful difficulties which her behavior offers. Capture and submission are responded to by mutual absence of fear, disdain and the like — the instinctive basis of the perfect confidence celebrated by poets — and by satisfaction in bodily contact, including as a final element the contact necessary to the fertilization of the ovum. The entire behavior in original nature is neither licentious nor ideal, being destitute of images or notions of any sort.

Pictures of a sexually suggestive nature may serve as stimuli which rank second only to the actual presence of such a situation as that above described. The possession of such perverted works of art, especially by adolescents, and the salacious enjoyment and display of them, present a really serious problem.

Stimuli are also found within the body in the form of changes of blood supply, hormones, and other secretions whose general effect is to act on the sex centers of the brain, producing the many "images" and "notions" which are commonly ascribed to an "evil imagination."

[1] *Educational Psychology*, Vol. I, p. 98.

Under the head of Self-Management (Chapter XII) we have discussed means of controlling stimuli, bonds or connections, and responses. Let us try to find some practical help by applying this doctrine to matters of sex.

How to manage undesirable sexual stimuli. — The best way to manage undesirable sex stumuli is to shun them, so far as possible. Further, all who favor social soundness can help to remove them. The promiscuous discussions of sex can be stopped, and talk of less stale and more profitable things substituted. For the adult, in full knowledge of the facts, the proper attitude is one of rising above the unintelligent reaction — in other words, the projection of the ideal of enjoyment of beauty which can be appreciated without lust.

Managing thoughts and feelings. — Evil effects, both mental and bodily, may ensue without the committing of outright acts. Crile says,

> If fear be a phylogenetic physical defense or escape which does not result in muscular action, then love is a phylogenetic conjugation without physical action. The quickened pulse, the leaping heart, the accelerated respiration, the sighing, the glowing eye, the crimson cheek, and many other phenomena are merely phylogenetic recapitulations of ancestral acts. The thyroid gland is believed to participate in such physical activities. Hence it may well follow that the disappointed maiden who is intensely integrated for a youth will, at every thought of him, be subjected by phylogenetic association to a specific stimulation analogous to that which attended the ancestral consummation. Moreover, a happy marriage has many times been followed by a cure of the exophthalmic goiter which appeared in the wake of such an experience.[1]

Emphatically, if sex is to be kept in abeyance, let the stream of transmission be guided by some purpose other than sexual, integrated for a different object. Observe how men and women meet for sport such as bathing, in limited costume,

[1] *Origin and Nature of the Emotions*, p. 68.

or in exciting finery perhaps, for the better type of dancing, yet with only a diffused sexual glow, innocent of evil. Their minds are set on the healthful and social purpose of the occasion, under conditions such that erotism tends to be inhibited. By such means we can give even the sex centers their " appropriate exercise " and at the same time build up a healthful personality.

One of the most potent secrets of easy self-management in sex is that of learning to " strangle an evil spirit in its inception." Introspection will reveal how great a matter a little fire has kindled in the past, and how the " little fire " started, so that we can then contrive how to apply the extinguisher. So much depends on which brain centers are habitually kept excited.

If necessary, we can drain off the stream of transmission somewhat by hard mental or muscular exercise combined with well-regulated diet. Muscular play has come to the aid of many a student, especially to him who has passed from a life of heavy eating, bodily activity, to one of books. MacCurdy found that soldiers in an anxiety state, even mild, are subject to loss of erotic feeling of sex powers, so that " no attempt at intercourse is made, through lack of desire." [1]

The most general means to control when desire is present is to rouse other currents in the stream of transmission. Sexual tendencies are more easily interrupted, for the time being at least, than almost any other. The sexual function is controlled by the lower third of the autonomic system, which is shifted off by fear, rage, and other emotions. It is much easier to separate the lower animals when they are bent on sexual satisfaction than when they are fighting. Perhaps

[1] John T. MacCurdy — *War Neuroses*, p. 28.

the surest way to make a man forget that he is in love is to make him angry about something.[1]

As with other passions, one of the best permanent means to control is a lofty and consecrated life purpose.

The question of continence. — What of the ideas of rhythmical cumulation and discharge, and of drawing off the energy from any part of the brain battery that is found overcharged? Do they apply to sex?

Gradually, social selection will put its premium on those in whom sexual gratification is secondary, and whose energies can readily be drained to other channels. For the present some sexual outlet, though not necessary to health, may be very desirable to relieve tension, lessen temptation, and permit undisturbed application to work.

Yet this outlet ought not to be unlawful coition. The sex instinct, once perverted in this way, forms an almost unbreakable habit,[2] to say nothing of the danger of disease. The female is somewhat relieved, perhaps, by her monthly loss of blood, and the young man by his occasional (perhaps even weekly) sex dream — and the second may be as innocent as the first. The habit of masturbation, frequently practiced, is an evil. The occasional performance of the act, where necessary and indulged with a clear conscience, may well be overlooked. It need do no harm if the forming of a fixed habit is guarded against; and it lessens the lure of the tempter, enabling passionate youth to escape worse sexual dangers.

At the same time, one should avoid all inflaming situations.

[1] This is illustrated in *His Wedding Night*, by that psychologically-minded author, DeMaupassant. A bridegroom leaves his bride because some friends, wishing to tease him at a critical time, begin poaching in his orchards.

[2] See, in science, Royce's *Outlines of Psychology*, p. 345; and in true-to-life fiction, Daudet's *Sappho*.

" Spooning," especially, has proved the undoing of multitudes who thought they were " no longer children at the apron-string," and had no need for a chaperon. Whatever else " spooning " and " petting " may be, they are nature's preliminary to sexual intercourse.

Love and marriage. — Sex has its " earthly body," and it has also its " heavenly body." Men " love " men, and women " love " women, and (if we may make a bull on the subject) the sexes would still love each other if all sex were abolished.

In general, it is *unity of purpose* that draws people together, though the " purpose " may never have been clearly phrased, or even thought out. Many people have only such limited knowledge about their own minds as a young child has about its own body. Little by little the infant explores his body and only gradually comes to know it. Similarly, in the beginning, the mental powers and tendencies are " subconscious," unrecognized, deep in the stream of transmission. We explore them as the baby does its body, feeling and trying them out. If two people have for each other a physical appeal only, a sexual " purpose," they may end in discord and the divorce court.

The ideal mate is one whose traits harmonize with one's own, supplementing them if they are good, neutralizing what is undesirable. Balanced temperaments are likely to marry others of nature similar to themselves. Galton found, in one of his investigations, that there are more cases of marriage of similars than of marriage of opposites. Extremes often seek a balancing opposite. Choosing a mate is much like choosing a vocation; we should seek, through devotion, to find satisfaction for our traits. Young people, as they " go with " this one and that, should study the other sex while

studying themselves, form a high ideal, and then try to reach it through the way of love.

That marriage offers an ideal type of existence for those who are fit for it and who are willing to serve an ideal, there is no doubt.

CLASS EXERCISE

Discuss, or perhaps debate, the question as to whether women should pay court to men as men do to women. Trace out the implications and probable effects from the standpoint of biology (the mother furnishes determiners for the unborn as well as the father), sociology (effect on the family), economics (does the one who proposes assume the support of the family), and psychology (is man by nature aggressive, woman passive). Would it mean less repression and hence better mental health for women? Would women choose with as much insight as men? Or is choice mutual even when man alone makes advances?

What would be the effect on the next generation?

FOR FURTHER STUDY

1. An investigator of conversational topics found that when man talked to man, the subjects were dominantly "Money and business," 48 per cent; "Amusement," 14 per cent; and "Persons of the same sex," 13 per cent. When woman talked to woman, the subjects were chiefly "Persons of the opposite sex," 44 per cent; "Clothes, buildings, and interior decoration," 23 per cent; and "Persons of the same sex," 16 per cent. (See article by Henry T. Moore in the *Journal of Abnormal Psychology and Social Psychology*, Vol. XVII, No. 2.)

Give explanation and comment.

2. There is less crime among married men than among bachelors, and less disease, both physical and mental. Do you think this is because of marriage, or because the superior type of man is more likely to marry, or both?

3. Show how the sex instinct may either destroy other interests or reënforce them, according to whether it is regressive or sublimational.

4. Wells found, in studying a hundred cases of dementia precox, that where sexual trends were directly expressed, they were about twice as frequent in women as in men. He adds that "sexual trends are far more blocked in women," and that "the sex tabu is far heavier upon them." (Frederic Lyman Wells, *Mental Adjustments*, p. 209.)

Explain. Does this indicate any need of a freer life for women?

5. Statistics show that the mother-in-law, and especially the wife's mother, is the greatest single influence in causing trouble between man and wife. Why should this be? What can be done about it as to residence, etc.?

6. McDougall states (*Introduction to Social Psychology*, pp. 129–131) that, since admiration is composed of wonder and negative self-feeling (submission), the "extremely confident, self-satisfied, and thoroughly conceited person is incapable of admiration." How will this affect the love life?

7. What is the instinctive reason for using rouge and powder to imitate a good complexion?

8. How can one know when he has found the right vocation? The right love mate?

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. The reproductive instinct in animal life. (Smith.)

2. Medical opinion on questions relating to sex. (*Mental Hygiene*, Vol. IV, No. 4.)

3. Modern change in ideals of womanhood. (Griggs.)

4. Sexual development of a group of college graduate men. (*Mental Hygiene*, Vol. VII, No. 4.)

5. Various aspects of the love life. (Cabot.)

6. Research on sex problems by the National Research Council's Committee. (*Mental Hygiene*, Vol. VIII, No. 1.)

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CHAPTER XV

Social Adjustments

Exercise. — Examine a newspaper. Sum up the number of inches of space given to man's struggle to adjust himself with his material environment, and the number devoted to adjustments of man with man. Comment on the results.

The bigness of the question. — It is not good for man to be alone — even if he has no better company than that of other men. The lonely miner in the far-off mountains finds his stream of transmission running wrong because it is not supported by the customary human stimuli. By and by he is affected with hallucinations, and that is the danger signal which warns him to hasten back to civilization. Human contact restores him.

If the world sometimes seems too full of humanity, and especially the wrong kind of it, let us at least be thankful for our fellow man. We could not live without him. And who would care to live in a society composed of himself as the only citizen?

Yet the problem of social adjustments — and that means, in the present discussion, the problem of getting along with people — is a serious one. Investigation indicates, and possibly proves, that more jobs are lost through "lack of adaptability" than because of a too small caliber intelligence. Then there are the conflicts, the worries, the broodings, the emotions whose tendency to break out varies directly as the pressure, and the consequent inefficiency and mental unhealth.

Human nature has become highly specialized and individuated. In so far as each of us is a unique ensemble of traits, he is estranged from his neighbors. To deal with human nature requires a finer and higher soul than mere dealing with the brute environment.

How this problem rests on others. — Life's adjustments have a dove-tailing influence on each other. Here is a student who is somewhat proud, irritable, and selfish, and who says frankly that he does not like people — most people. Yet he is entering a profession in which he must deal constantly with human nature of many sorts. Let us seek a suitable environment, physical and social.

Then there is health, and so simple a matter as exercise. Beers found,[1] in a certain state hospital, that when out-of-door exercise decreased, the number of assaults by attendants on patients increased accordingly. He concluded that attendants need regular exercise quite as much as the patients.

And what of the understanding of self, and of one's ambitions, perhaps only half born in consciousness? Of the acquisition of that self-assurance which begets respect? Of launching into that vocation and avocation which bring the daily throb of sympathy with admired companions? And of finding the right love mate, great harmonizer of all that is discordant?

Ideals to the front. — The secret of successful social adjustment lies in keeping the right feeling foremost. For some time during the World War there was posted in the headquarters of Camp Meade the reminder, " We are at war with Germany." This was a brief way of saying, " We will permit no other interest to interfere with our great purpose, no

[1] *A Mind That Found Itself*, p. 106.

personal ambition, no love of ease, no petty jealousy about promotion or pay." It is the old question of morale, unity of feeling for the attainment of a great end.

Let us hold in mind, in any situation, the "great end" for which we are striving in common, and keep foremost the feeling which will best forward that end. In time there comes to be, in home and shop and school and store, an "atmosphere" of affective suggestion which envelops all who are there. It is a large part of the work of parents, superintendents, leaders, and "bosses" in general, to create and sustain this atmosphere. But every associate can help, and all need to, for too often the boss does not realize what a subtle responsibility is his. Whether or not a motto hangs framed on the wall, it should be enshrined in the heart. If only our statesmen and politicians would keep repeating to themselves, "Let the people's business be done," we might hear less of clashing parties and more of unified achievement. The teacher, especially if she finds herself associated with a sordid school board or a self-seeking supervisor, can fortify her soul with the sentiment, "For the children's sake."

Then there is the great sphere of everyday action, the Society of Everybody. What shall be the dominant affect there? Tzukung once asked of Confucius, "Can one word cover the whole duty of man?" And the Master replied, "Fellow-feeling, perhaps. Do not do unto others what thou would'st not they should do unto thee." And again he said, "A heart set on love will do no wrong."

> The most agreeable of all companions [says Lessing] is a simple, frank man, without any high pretensions to an aggressive greatness; one who loves life and understands the use of it, obliging, alike, at all hours; above all of a golden temper; and steadfast as an anchor. For such an one we gladly exchange the greatest genius, the most brilliant wit, the profoundest thinker.

Some causes of social maladjustment. — If we tried to deal with all the causes and phases of social maladjustment, the result would be a big volume of psycho-social etiology and pathology. Perhaps most of the present generation have been brought up with individualistic ideals and have not been properly socialized by education. As Burnham shows us,[1] we are unable to coöperate, especially with enemies, or to understand our opponents, or to take responsibility, or to let others take it without our interfering, or to enter or get along with or help integrate certain important groups. But in general, we can see at once that if success lies in keeping the big purpose and its appropriate affect foremost in our contacts with our fellow man, the way to failure lies in allowing them to be supplanted by others. These others can only be suggested by type samples.

If we run through the familiar list of instinctive emotions, we shall find the most frequent causes of difficulty. There is fear, which may interfere with one's frankness, or so choke his self-assurance as to cost him the respect of companions. Disgust with the work, or with some associate, instead of being cured, is allowed to dominate as a disease. I have known even curiosity, too much indulged, to turn a fairly efficient man into an unbearable ass. Anger, in the form of irritability and combativeness, takes up every challenge, even imaginary ones, and insists on a fight to a victory, here and now.

In addition to our runaway emotions, we have the familiar picture of general overexcitement, the loose-cannon-on-shipboard situation, with ill-controlled behavior and numerous needless injuries. Or perhaps we fail to observe and keep in mind the individual peculiarities of our associates, which must sometimes be as carefully avoided as sore spots on the body.

[1] William H. Burnham — *The Normal Mind*, p. 241.

And finally, there are the false philosophies of life which seep into us and almost convince us at times that it doesn't pay to leave vengeance to a higher power nor to go on playing the game with patience and good nature. It is hard to remain good-humored and idealistic when your associate doesn't, bitter to have to atone, without credit, for his errors.

If only we had some kind of periscope which would show us the future, the results of our policies would appear immediately instead of accumulating slowly, and we could know that it is really worth while, sometimes, to be a humiliated yet smiling loser.

Suggestions for attaining the ideal. — Again, let us introspect impartially and cultivate outmindedness:

> Am I jealous, envious, domineering, hypercritical? Have I gotten along with other people, or does trouble seem to start wherever I go? Are my associates at fault? What real evidence have I? Do others like him whom I pronounce disagreeable? If I find faults in my companions, is it my duty to set about curing them, or to adapt myself to them? Can I not learn to take the situation objectively and even to enjoy it as a game, instead of making myself the sensitive center of reference for everything?

Probably it is the instincts of pugnacity and rivalry that throw most sand into the bearings. Our most important negative commandment is this: *Feel no enmity.* Refuse to be an enemy to any one. Let the other fellow adopt Satan's method if he will. That other fellow's enmity to us will not hurt us, but ours toward him may do so. We may have to disagree, but we can do it good-naturedly, with a "Sorry to disagree with you." We may have to oppose, but we can do it like a sportsman, more intent on the spirit of good sport than on winning any particular game. Let us be too big to bicker — let us join those great souls who flow over and around the small ones and float them along.

To put it positively, we want to be "good fellows." But

what is the recipe for being a good fellow? Good-fellowship is first of all a state of mind, an attitude. Its primary affective ingredients are *kindness* (the outgrowth of tender feeling and perhaps of the social instinct), *good humor* (springing from amusement, jollity), and *self-assured poise* (based on a proper balance of elation and subjection). These, combined with fairness (which is simply kindness to all), sincerity, and stability, make the royal companion.

Let us keep and use this recipe for good-fellowship. Having gotten our ideal and our method, the rest is a matter of practicing the personality we wish to be, including the practice of adaptability. The return in sheer dollars and cents is large, and the gain in uncountable mental wealth is still greater.

CLASS EXERCISES

1. Continue and complete the study begun under the head of "Some causes of social maladjustment," running through the full list of instinct-emotions. If other causes of maladjustment are found, include them also.

2. Visit or write to heads of schools, stores, shops, etc., and find what ideals, policies, and measures are depended on to maintain morale, that is, an harmonious and energetic working spirit.

FOR FURTHER STUDY

1. A business man who had two clerks that disagreed a great deal took them both out for a long ride in his automobile, seating them together in the rear seat. This remedied the situation. Would it be likely to work in all cases? Give reasons.

2. Observe how you are influenced by the facial expression and mood of your teachers from day to day. What lesson here for you when you teach?

3. Consider the evil influence of the spirit of competition in school, business life, community, politics, etc. What is your solution, to abolish competition, make it all friendly, or what?

4. "In so far as each of us is a unique ensemble of traits, he is estranged from his neighbors." Give examples, such as that of the missionary and the miser, to show the force of this.

5. Name some occupations fittingly open to those who do not like to deal with people.

6. What, in your judgment, is the best way to heal ruptured personal relations, by conference in which there is a psychoanalysis of the whole cause of the trouble, or by simply beginning again and maintaining the new spirit that is desired? Why? Can you give any instances?

7. What value do you attach to parties, socials, etc., among a working force such as a group of teachers? What is the effect of meeting under conditions such that professional problems are submerged and common pleasure is upmost? Recall the effect of socials on you as a student, or perhaps introspect after your next social. How do they affect your attitude toward your school, your mates, etc.

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. The rôle of sociability. (Ross.)
2. Influence of good manners. (Emerson.)
3. The group spirit. (McDougall.)
4. The spirit of the game. (Gulick.)
5. Danger signals for teachers. (Winship.)

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CHAPTER XVI

Mind and Health

Exercise. — An automobilist stops his car at a certain turn of the road every time he passes that way because he once saw an accident there. One family always dreads Easter because a daughter died on that day. A young lady dislikes to attend the "movies" because on one occasion, while she was in the theater, her home burned.

Show how people learn these habits, perhaps giving other instances. Can you state the laws involved? How would you attempt to cure such cases by reëducation?

Suppose a patient's stomach has "learned" to digest food badly, or his heart to beat irregularly. Can these organs be taught, through the nervous system, to behave properly? To what extent would you look for individual differences with regard to the curability of body by phreno-mental influence?

Mind can cause bodily illness. — "Care killed a cat." It can, also, like other mental states, kill a man; or in lesser doses, cause him to suffer from any one of a variety of diseases.

The soldiers of a defeated army are not infrequently afflicted by dysentery induced by their mental condition. There is an old record of a boy who, having been scared into epilepsy by a big dog, thereafter had an epileptic attack every time he heard a dog bark. A young lady, frightened at a mouse, temporarily lost the power of oral speech. The same effect is sometimes produced by the application of a powerful galvanic current to the larynx. Fear, grief, anxiety, shock, may cause jaundice, or even degeneration of the liver. Nor is "spleeny" a term applicable to the mind only; it denotes

also a bodily condition. Says a medical work of the sixteenth century:

> Melancholy meats, hard chese, and feare is not good for the spleen. . . . This impediment doth come by thought, anger, or care, or sorrowe, of imprysonment, of feare and dreade, and for lack of meat and drynke. And it may come of great solytudnes, or solytudnesse to study, or to be occupied about many matters. *A remedy:* The chiefest remedy for this matter is to use honest and mery company, and to be iocunde and nat to muse upon no matter, but to leave of al pleasure and nat to study upon any supernaturall thynges, specially those thynges that reason can not comprehende.[1]

Mind can cure bodily illness. — The fact that mental condition may cause bodily illness does not prove that mind can cure; for there are in this world many forces which can tear down but can not build again. Phreno-mental forces can heal, however. It is sometimes stated that mind can not cure any disease except one which it has itself caused. Facts contradict this statement. The forces of the brain-mind can heal much which they have not caused, and far beyond the range of influence commonly ascribed to them.

A physician noticed that, although the leg of one of his patients was disabled by a painful contracture, she sometimes permitted it to be moved without evident pain when her attention was directed elsewhere. He gave her "something to take" and told her she would be well enough to leave the bed by the following Sunday. She did so, and recovered rapidly. The "medicine" was unmedicated. A cultured woman who had a goiter of unusual size tried various remedies unsuccessfully. She finally went to a powwow doctor, who "talked it away" so successfully that for years there has been no sign of it. Warts, ringworms, and even tumors have been touched, talked, or charmed away, and more than one serious case of gout has been cured by a good fright. Scurvy,

[1] See Daniel Hack Tuke's *Influence of the Mind upon the Body*, p. 304.

dropsy, drunkenness (intoxication), fever, and evidently even tuberculosis, or at least, cases so diagnosed by a physician, have been dispelled by sheer brain power — perhaps aroused by so apparently silly a thing as a charm or an amulet. Many a man, apparently seriously ill, has experienced such relief from the making of his will that he has recovered.

How can these things be? — The Book of Job speaks physiological as well as religious truth when it says that "wrath killeth the foolish man, and envy slayeth the silly one." An old soldier was doomed, according to his physician, to die within a day or so at the outside. But the patient strongly desired to live ten days, until the first of the month, so his family could draw his insurance money with which to bury him. He did so; and as soon as the insurance papers were signed he resigned himself to death and passed away within a few hours.[1]

How can mind influence body so strongly? Here again appears the necessity for regarding the whole personality as one corpo-mental system. The common difficulty lies in our habit of thinking, or rather, accepting without thought the belief, the assumption, that mind is an ethereal, immaterial somewhat, and can therefore affect the solid body only about as much as the shadow of a cloud can affect a rocky cliff. But every mental process, such as a thought or an emotion, is (as I believe) also a nervous, physical process, and if our nomenclature were complete, would have two names, or a name composed of two parts, to indicate that fact. Health-lust is "mental" as we experience it; but it is also a commotion of some kind among our neurones and synapses. As such commotion, there is no more impropriety or impossibility in its setting up other bodily processes than there is in one

[1] James J. Walsh — *Health through Will Power*, p. 6.

marble's starting another to rolling. It may even be, and in fact often is, a kind of trigger process that sets off forces much mightier than itself. Granted that an emotion can change the chemistry of the body, as it undoubtedly can, and why should it not produce a chemical that will work a cure as successfully as any administered from a physician's medicine case? The moral is that one should stand guard over his emotions — beware of the destructive and cherish the constructive.

How the stream of transmission influences health. — Whether we are well or ill depends on the condition of our cells. The condition of our cells depends very greatly on blood supply. Blood supply is controlled very largely by the nervous system, for the nervous system is the governing system of the body. Health and illness, then, depend eminently on the two streams of transmission — the chemical, or blood stream, and the neural.

We do not consider it strange when we undergo a disagreeable emotion and find our digestion impaired, or an agreeable one and find it improved. It is not strange when one has an idea and blushes, nor should it be so very strange when we fix attention on any ailing organ and so increase its blood supply, or so very much stranger when a powwow doctor reaches the nerve centers that control a given set of capillaries and stops blood from flowing from a wound. The question is dominantly this: To what extent can we influence the action of those nerve centers which determine the health processes? In self-curing, the question becomes, To what extent can the conscious portion of the stream of transmission penetrate or otherwise influence the subconscious portion of it?

We can conceive of an individual's acquiring such mental

mastery that he could send his conscious neural impulses vibrating down through the depths of his stream of transmission until they reached and influenced the subconscious currents and so controlled all those bodily processes necessary to health. If such a man found disease developing anywhere in his *corporeum*, all he would have to do would be to say to the master neurones that controlled his various glands, " Go to, now; produce an antitoxin for this distemper and strike it dead." And straightway, if it lay within the power of the body to do it, the thing would be done.

We need not subscribe, then, to the common remark that psychotherapy cures " imaginary " diseases only, or that it is not much good except for nervous people who merely think they are sick. Even if this were true, mental healing would be, among the many offshoots of the tree of therapy, one of the largest and most important branches. For imaginary diseases are numerous, and are just as painful and hard to bear as any others. Forel gives a case of a man who had had an infectious disease of the urinary passages, marked by inflammation and suppuration. Two years later, after his recovery, while mentally hyperesthetic, he incurred the danger of a new infection. For two weeks he suffered his former disease *mentally*, although careful examination showed that the urinary passages were quite intact. This reliable and educated subject asserted, after recovery, that the second attack, due purely to autosuggestion, had been quite as painful as the first, in which there had been suppurative inflammation of tissues.[1]

The nature of the subconscious. — Surely, one does not usually wish these imaginary or other diseases on himself with deliberation. Between his worry and his indigestion, for example, there is a step which he can not follow intro-

[1] August Forel — *Hygiene of Nerves and Mind in Health and Disease*, p. 158.

spectively, and which lies in that broad twilight zone, that hazy psycho-physiological no-man's-land wherein his full personal consciousness shades off finally into processes that are purely of the body and nonconscious. This mystical borderland is the subconscious, much talked about and little known.

Perhaps it will help if we magnify a human brain to transcontinental size and consider the " subconsciousness " of a nation. Let our federal government at Washington represent the personal consciousness of the country. Then of what would its subconsciousness consist? In general, of three kinds of process. First, what has never come to its attention, such as a popular movement which has not yet received official notice. Second, that which has received some measure of attention, but instead of being frankly recognized and organized, was perhaps snubbed and repressed and partially forgotten and which, through the attempt to ignore it, may make trouble later. Third, that which the government once organized with high attention but has now reduced to routine, or which it found organized and which has simply continued, as the handling of an ordinary letter in the mails, or of local town meetings. These can be carried on even better by subordinates and private citizens than they could by the President or Congress. Perhaps we should add a fourth class, that which goes on in such a way that it *would* ordinarily be attended to, but now passes unnoticed except by subordinates because the attention of high officials is drawn elsewhere, as by war.

There seem to be three analogous classes of processes in the subconsciousness of an individual. First, that which has never come to his attention, such as a new instinct or other trait in process of developing. There may be a " popular

movement " among his neurones, a tendency to make love or gather gold or what not, which his friends will discover by watching his behavior, before he himself is aware of it. Second, that which has received some measure of attention, but which has been snubbed and more or less successfully ignored, and so may make trouble later. Such is jealousy of the success of others, or signs of disease breaking into one's system. Third, that which has been learned, organized, and dropped from attention, or which was automatic from the beginning and so never required attention. Franz, having taught cats and apes to make various groups of movements in combination, removed a part of their frontal lobes, whereupon the recent learning was lost. But if he delayed the operation until the learning had become well fixed, it survived in spite of the injury to the brain. This was, presumably, because the movements had become automatic and were, therefore, directed from a lower brain level — a level approaching the subconscious. Automatic processes such as heart beat of course never have to be learned, but are taken care of by the subconscious from the beginning. If a fourth class is added, it consists of the possibly conscious but not now conscious, such as a rheumatic pain, or what would have been a pain if felt, forgotten in escaping from a fire.

Relation of the integrative consciousness to the subconscious. — Keeping in mind that we are speaking by analogy and in a rather loose and general way, we may say that the relation between the conscious and the subconscious is much like that between " the government " and " the people." With a bad government or none, the people may become ununified, dissociated, showing various trends, losing their single nationality and exhibiting all the different partial " nationalities " they possess, as one class after another asserts itself.

Similarly, in an individual whose personal, integrative consciousness is weak or hysterical, the subconscious may become disunified, dissociated — showing various trends, losing its single personality and exhibiting a " dual " personality, or perhaps various partial personalities. No wonder, then, that these partial personalities can easily be developed by suggestion, and that they form and break, " like so many bubbles on the surface of the upper stream of consciousness." [1]

Freud (according to the interpretation of admirers) regards the subconscious as personal, a kind of storeroom filled from the individual's own experience, including experience before birth. Hence very young children dream (he thinks) of sexual matters of which they have had no experience. Jung thinks the unconscious is racial, stored in part with hereditary materials.

Sidis is more enlightening when he states that there can be no personal acquaintance with the subwaking self, for it lacks personality, being extremely elastic, servile, even cowardly, and, when commanded with authority, ready to obey.[2]

Rôle of the subconscious in illness and health. — The subconscious has control, very largely, of the physiological processes that determine illness and health, somewhat as " the people " have control, in large measure, of the commercial and other activities that determine national illness and

[1] Boris Sidis — *Nervous Ills: Their Cause and Cure*, p. 88.

[2] Those who wish to study further the nature of the subconscious will do well to read Carpenter's chapter on "Unconscious Cerebration" in his *Mental Physiology* (published before the present-day theories of the subconscious had appeared); some good, clear, modern text in psychology; and after that the work of Sidis, and Prince's *The Unconscious*. The last mentioned is especially to be commended.

health. "A bold peasantry, their country's pride," is fundamental.

Now, what the people want is leadership, leadership which expresses their aspirations. For one of the most outstanding facts about them is that they learn, form habits and customs which make for the bad or the good of their country. Left to themselves, they often learn much which makes for national disease. Under guidance, they can cure many existing evils and prevent others from appearing.

Similar statements appear to hold of the subconscious. Healing is reëducating. Being healed is learning. The stomach may be taught to digest food as it should, catarrhal tissues to stop their exuding, jumpy nerves to hold steady. The means used in such reëducating may be physical, chemical, or mental. We should use the most appropriate, and perhaps all. The surgeon's knife, the physician's tablets and drops, and the influence of the mental healer are all in the same general class.

Phreno-mental healing and the laws of learning. — In the discussion and practice of "mental healing," we find one emphasizing faith as the fundamental; another, suggestion; another, thought, or understanding; another, what he calls imagination; still others, will. Each appeals to his favorite psychological power, and reaches that limited group of subjects who are naturally so constituted as to respond best to that appeal. All, however, are healing (and failing to heal) according to the laws of *readiness*, *exercise*, and *effect*. In order to cure, they must rouse phreno-mental energy preferably, it appears, in the form of an emotion (*readiness*), and must direct it, often repeatedly, along the neurones that control the health processes (*exercise*), and in such a way as

to sustain the confidence and persistent coöperation of the patient (*effect*).

Faith is one of the most powerful forms of readiness, a mighty means to the motivation of health. Its vigorous neural currents can break down resistance at the synapses, or establish resistance against nerve impulses of a pathological nature. Fear, as we have seen, may also cure, but is often regressive, and so more valuable to sweep away resistance or establish an inhibitor than to heal constructively. In general, the patient is brought into a passive, receptive, believing, and perhaps an admiring or even reverential state. Sometimes this is accomplished by hypnosis, sometimes by a hypnoid, or relaxed, half-waking state, sometimes by the " transference " of the patient's " libido " to the healer. This last means, simply interpreted, the establishment of sympathetic, confidential, even loving relations between patient and physician, but more especially on the part of the patient, the healer maintaining the positive rôle of leader and director.

The laws of exercise and effect deserve a long discussion which we can not here accord them. In general, too much emphasis has been placed on the negative, too little on the positive. We need more of the attitude of "Rise up and walk," and less time spent on the denying of the " claims " and the existence of disease, and on long psychoanalytic probings. Speaking strictly, we can not, as James has said, ever " wipe out " anything from the nervous system, but we can build something new there. We can learn to think new thoughts, feel new feelings under old conditions, establish new action channels and a new state of health.

" Rise up and walk " does not mean, however, that we shall always, or even usually, expect quick cures. Learning health, like the learning of anything else, usually takes some

time. Our mental state should be that of expectancy, "Going to, going to, going to," with cheerful notings of improvement as it comes, more firmly established faith in the method, and, finally, congratulation on a stable cure.

Guides to psychotherapy. — Weaver [1] lays down seven steps: (1) confidence in the therapeutic agency, (2) the reiteration of suggestion, (3) the elimination of fear, (4) the evocation of wholesome desire or hope, (5) catharsis (mental cleansing) by adequate reaction, (6) restoration of initiative through work, and (7) final and permanent establishment through successful achievement. Tuke's list of curative measures [2] would add the rousing of the will, expectation, in some cases, with regard to the action of certain "inert substances" such as bread pills, directing of attention to the particular part of the body to be helped, the touching or stroking of the part, and perhaps hypnotism. One would think that the vivid picturing of the result desired and the process necessary to produce it, such as the secreting of juices or the action of the stomach, would also be helpful.

Here, as in solving other problems, let each build his own personality around his strongest traits, and let the strong parts of the personality bear the burden of the weak. He who believes in suggestion will profit by it. He who takes pride in being master of his fate and captain of his soul can often heal himself by calm thought and determination. He who trusts rather in the divine may be healed divinely.

But let us make use of all appropriate measures, not despising the old because we have learned of the new. Drugs, too, may turn out to be divine, and not so different from thoughts and feelings as we had supposed.

[1] *Mind and Health*, Ch. IV.

[2] *Influence of the Mind upon the Body*, Ch. XVII.

CLASS EXERCISES

1. Review the chapter and prepare an outline of what mental measures one can take to heal his own diseases, and especially to keep himself free from disease.

If you wanted to make some one ill through mental influences, and had the power to carry out your plans, what would you do?

2. Let each, for a few minutes, in class or out, repeat to himself at intervals some such affirmation as, "I have a pain in my head." Report and discuss results.

FOR FURTHER STUDY

1. A man dreamed that he was bitten in the leg by a mad dog, but on awaking, felt nothing. Later, an ulcer appeared on the spot where the dream-bite had been. Did the dream cause the ulcer, or was the tissue, already somewhat disturbed, reporting faintly through his subconsciousness? Or do you think there was only an accidental relation between dream and ulcer?

2. A physician was taking the temperature of a man who was apparently suffering from paralysis, by putting a thermometer under his tongue. The patient, thinking he was being treated, declared himself better at once, and straightway got well. Where do you think this disease was located? What was its nature, and what cured it?

3. The aim of psychoanalysis, says one of its practitioners, is to reveal to the individual, from his own experience, the "unconscious motive" that is at work in him. Show how impartial introspection and self-study might help here.

4. If you learned when a child to say "ain't," and have made no effort to correct it, what likelihood is there that you still have the habit? Is the same true of darkness-fear if you learned that in childhood? How can you cure yourself of these things? Is it necessary first to discover the cause and original circumstances, or can you proceed with the cure at once?

5. I once suffered a bad fall from a bicycle and was knocked unconscious. Somebody who lived in my body picked up the

broken wheel and trundled it on, traveled a mile toward home, turning properly at two crossroads, and said to another young man who was born of my parents, "You are my brother, aren't you?" I do not remember doing these things. Who did them, a second personality, my subconscious self, or what?

6. Why can not an hysteric or other patient who is mentally ill give himself mental treatment? What is probably the condition of the integrative centers?

7. A newspaper report states that a woman who was very fond of violin music had an expert violinist play to her while an operation was performed on her eye. The operation, although of a kind usually quite painful, caused her no pain. Explain how this could be?

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. The energizing influence of emotional excitement. (Cannon.)
2. The hypnoidal state as a means to cure. (Sidis.)
3. Synopsis of Freudian theories and an explanation of the psychoanalytic cure. (McDougall, Chs. XXV, XXVI.)
4. Critique of the Freudian theory of the subconscious. (Myerson, especially Ch. V.)
5. The subwaking self and the unconscious. (Sidis. Prince.)
6. Psychotherapeutic technique. (Weaver. Tuke.)
7. Everyday psychotherapy. (Ewer.)

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CHAPTER XVII

Religion and Health

Exercise. — Make a list of some twenty-five or more of the world's greatest and most healthy-minded characters, past or present. Check those who you find can be classified as religious. Comment on the result.

Is religion peculiar to man? — It may seem fantastic to seek for any evidence of religion below the animal world. Yet Lowell may have spoken literal truth when he said,

> Every clod feels a stir of might,
> An instinct within it that reaches and towers,
> And, groping blindly above it for light,
> Climbs to a soul in grass and flowers.

It would pay us to reflect on the possibility that man, when he climbs to his religious best, is simply following a " natural law," common to nature and to human nature.

Among lower animals we find conduct which, by a figure of speech at least, might be called religious. Walruses, when attacked, attempt escape according to the rule of " women and children first," the adult males following. If one of their number is injured, two of the strong support it, one on each side, swimming and diving to safety. " Instinct," we say. Yes. Yet even our religion may have an instinctive basis.

But religion in the higher sense seems peculiar to man. " Man, being reasonable, must get drunk," said Byron once. It would be much more sensible to say, " Man, being reasonable, must be religious." In the view of some, man,

as compared with the lower animals, appears to be suffering from an overgrown brain which reveals to him his terrible plight in a universe of woe. The remedy, however, for such plight as we find is not to drown consciousness, but to make it holy, that is, whole. Religion is man's attempt to adjust himself to the *whole* of things. It is the supreme integration of the personality in response to an integrated, unified world, a uni-verse.

The religious personality is healthiest. — Let us recall that our personal aims in mental hygiene are to satisfy desires and to meet the shocks of life. Large-minded religion permits us to gratify every legitimate desire, and it supports us, under shock, as nothing else can. It helps one to establish a strong mental constitution, to maintain a self-assured, high-level integration, and to practice the personality he wishes to be.

The religious type of character, serene, fearless, loving, patient, self-confident but not self-seeking, free from consuming emotions, loyal to the good, is the type which, other things being equal, is best adapted to maintain mental health.

What is religion? — We have spoken of religion as adjustment to the whole of things. But what does the whole include. Is the mind of man the only mind in all this boundless realm, or is there a greater mind than ours? What is it that ever roused the race to be religious at all?

Long ago, there were objects in the environment, and man evolved a sense of touch. There were vibrations of air, and in response to them there developed a sense of hearing. There were light and beauty about, and the race answered with a sense of vision. But there appears also in man what may perhaps be called a sense of God. There is no special external sense-organ, to be sure, but there are brain centers

which yearn to react to the Great Reality. Is there no reality corresponding to these centers? Religion, the sense of God, is perhaps the next and present step in evolution. The Divine Environment is the stimulus to the development of the kingdom of heaven which lies within us.

It is not strange that differing individuals have different visions of Him, or Her, or It; for the Soul of the Universe, or the Universal Soul, doubtless has many aspects, and it is still true that as yet we see through a glass, darkly.

One's religion, then, is his interpretation of the universe through his thought, feeling, and action. But since most of the universe, the curtained past and the unseen future, the distant spaces, and even the ultimate nature of the reality that daily surrounds us, has not yet been mastered by knowledge, religion becomes largely the interpretation of the imperfectly known. Very likely we are often deceived, but very likely a broad religious interpretation of this world is the best that man can get.

Religion as influenced by human nature and temperament. — Naturally, man tends to interpret the universe in terms of himself. He may be a bad sample of it, but he thinks it is not less human than he is, at any rate. This tendency to anthropomorphism is sometimes condemned as characteristic of the barbarian, unworthy of the insight of the modern. In my judgment, the primitive anthropomorphic intuition of the barbarian was more nearly correct than the reasoned deanthropomorphism of many of our scientists and philosophers. Some of these latter have attempted to interpret the world in terms of things objective, substances of various nature. Thales would have it all water; others would have it all air, or fire, or matter, or force, or electricity. No such explanation will ever satisfy, nor should it. In very truth,

man is the measure of all things, and the key to their interpretation.

Further, each of us is likely to interpret the world in terms of his own temperament and traits. One's god tends to be himself projected large on the clouds. What should we think of a man who believed in a dishonest god? Would we lend him ten dollars? From this we can understand Ingersoll's statement, " An honest god's the noblest work of man." The miner sees the Spiritual Environment from the depths of the mine, and has a miner's religion. The musician senses the Oversoul in wonderful harmonics and feels that he knows God. The farmer sees a great growth developing from a small seed, and there is the Infinite Life showing itself to him.

Prayer. — Now that the possibility of telepathy is practically demonstrated, we can understand better why the value of prayer need not be limited to self-discipline. It is not merely one's well-meant effort to lift himself by his own bootstraps. It may be a thoroughly scientific way of communicating with a Great Mind. Nor is it merely a beggar's petition designed to work miracles. It is a force released in the world. Whether or not it produces the result desired, there is no such thing as uttering a prayer without *some* result.

When one of our bodily organs needs more working material or more force with which to function, it " prays " to its universe, the body, and especially to the phreno-mens, for help. It may make this appeal by means of substances thrown into the blood, or by the quicker waves of the nerve impulse. Pain is, in a sense, the prayer of an organ in distress. At times it might feel, if it were a person, that its appeals were not answered. Rather, they are constantly

answered, and at least some special appeals of an emergency nature are answered in a special way.

In like manner do we pray, sometimes working changes in the energy stream of the world by means of work done, sometimes making use of the quicker electrical waves of thought and feeling, as did the saints when they " agonized " in prayer. At times we may feel that our appeals are not answered. Rather, they are constantly answered, and I believe that at least some appeals of an emergency nature are answered in a special way.

Science, religion, and mental hygiene. — Science, representing man's intelligects, stands before its unknown world and asks, Is the universe reasonable? It might not be. That is, the world, and the brain of man which tries to know that world, might be so out of gear with each other as never to harmonize. But here science feels a warm faith: " The world is reasonable," it declares.

Religion, representing man's whole nature as expressed in his affects, also stands before its unknown world and asks, Is the universe kind? It might not be. That is, the world, and the heart of man which longs to be " sustained and soothed by an unfaltering trust " in that world, might be hopelessly out of gear. But here religion feels a warm faith, and declares that

> The love of God is broader
> Than the measure of man's mind,
> And the heart of the Eternal
> Is most wonderfully kind.

But let us come down to the brassiest of brass tacks, and to ironclad atoms, and face the worst that a man can face. Let there be no God other than a great material machine. Let death mean annihilation. Let the human consciousness be

an accidental flare of mind in an otherwise mindless universe. Let prayer be as silly as a phonograph talking to itself all alone in a dark room. Still, we can not deny away so much mind as we have, as we are. We can not thrust out of the world so much beauty and truth and goodness as we actually find. We are sheer fools if we let the possibility of an " eternal dreamless sleep " haunt us out of the joy that may be ours while we are here and awake. Further, there are some of us who think the world is still unfinished, who regard ourselves as creative instruments on the new and evolving edge of it, and who find it romantically satisfying to struggle on in the creation of that kind of world which God could not create, if you please, because He did not exist.

Even from this standpoint, religion is good and wholesome. It is the fixing and establishing of our nature at its best so that it will remain stable and carry us through our worst.

Religion and health. — Among cures wrought by psychotherapy, those credited to religion, as already noted, form a large proportion. This is as we should expect. For the psychotherapist usually wishes first to cast out fear and to inspire faith in the healing power. The Bible, which is the basis of numerous religions, repeats as its most frequent commandment, " Fear not." Further, the Divine Physician inspires in many hearts such faith as no other can command, and a blessing " according to your faith " is the kind we are encouraged to expect. Now faith is a form of readiness, an outflow of phreno-mental energy from centers which, probably lying high in the brain, can not so well be stimulated, in some personalities at least, by any other means. If people only realized the money value of faith there would be more of it. They would seek religion and save doctor bills and many worse woes.

Further, the peaceful, receptive spirit which religion induces is much valued by the psychotherapist. Worcester believes that when we are in this condition "the Spirit of God enters into us and a power not our own takes possession of us." By such means he thinks he can explain the notable moral and physical improvement which sometimes follows a period of complete repose — improvement which comes with very little effort on the part of the patient.[1]

What the average religion needs is more affirmation according to the law of exercise, perhaps a kind of health creed. "I believe that God is healing me, that He is now making my lungs (or other organs) strong and sound," etc. Further, we must rise from the passive state and make use of all common means which God has given us, including medicines and our own strong wills.

That religion helps to preserve us in health and life there seems to be no doubt. "The sovereign cure for worry is religious faith," says James. Of course, if the type of religion is such as to cause more worry than it cures, this ceases to be true. Horace Mann once said that it would be easier for him to accept the religion of Red Cloud, an Indian chieftain, than that of John Calvin. But a broad, sane faith helps to build a sound subconsciousness; to maintain the open, frank mind, since we can tell God how mean we have been when we can not bear to let the secret get out any more widely; to lose our little selves in great purposes; to do our best and then, so far as results are concerned, to cast all our care upon Him; and to maintain that perfect peace and trust which enables us to walk through the valley of the shadow of death and still fear no evil.

[1] *Religion and Medicine*, p. 67.

CLASS EXERCISE

Try to list the fundamentals of that broad type of religion which serves as an adjuvant to mental hygiene. Avoid sectarian views, and seek suggestions rather in a survey of a few great religions, such as Judaism, Buddhism, Christianity, etc. "Fundamentals" refers to such general ideas as "the fatherhood of God," "the brotherhood of man," and the like.

Complete agreement is not necessary, as the object is not to fix a creed, but simply to inspire thought.

FOR FURTHER STUDY

1. In the United States, some 12,000 persons annually commit suicide. One president of the Save a Life League states that "nine out of ten who hesitate a little will be saved." What effect do you think religion would have in such cases? Why?

2. Show how religion is likely to encourage impartial introspection.

3. Should clergymen diagnose cases of disease? Prescribe treatment? Attempt cures? If they should do any of these things, what should be the conditions?

4. Show how religion encourages us to become and remain integrated in mind instead of suffering dissociation.

5. Does science change? Does religion change? Show that the minor features of religion may change without affecting the belief that the universe is kind-hearted.

6. Does one inherit his temperament? His religion? Show how different temperaments will naturally gravitate to different forms of religion.

7. Would America have existed if Columbus had not discovered it? Would religion have been possible without the books and the leaders that have presented it to us?

8. Report any case known to you in which religion has apparently preserved a condition of health, enabled a sufferer to "bear up," or wrought a cure.

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. The strong man's religion. (Peters.)
2. Religious experience and mental disorders. (*Mental Hygiene*, Vol. VII, No. 2, p. 307.)
3. General relation of religion and therapeutics. (Worcester and others.)
4. Special religious systems of mental healing. (Weaver.)
5. Worship and mental health. (Cabot.)

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CHAPTER XVIII

A Summary of Mental Sanitation

Exercise. — Select some person of your acquaintance, past or present, whom you regard as unusually healthy mentally. Describe his mental attitude, bearing, ways of "taking things," habits, etc. What do you think it is that has kept him in such a state of mental fitness?

Select another individual who, though not necessarily insane in the usual sense of the word, is frequently in a mental condition that is unwholesome. Describe also his mental attitude, habits, etc. What causes apparently underlie his mental unfitness?

Contrast the two characters and lay down a few precepts which you would recommend to one who wishes to preserve his mental health.

Purpose of the chapter. — The title of this chapter is an ambitious one. There is no intention, of course, of including in a few pages a complete handbook of mental sanitation. But as we have discussed the forces that determine personality, the inheritance and development of traits in the direction of disease and of health, and certain of the major problems in the mental hygiene of adult life, we shall aim now to close Part III of this book with a compendious sketch of the conditions that must be met by anyone who would preserve his mental health. These conditions group themselves under five heads: Inheritance, Hygiene of Body and Brain, Environment, Self-Adjustment, and Self-Management.

INHERITANCE

Choose good ancestors. — The oldness of the advice, that one should choose one's ancestors wisely, is often recognized more quickly than its efficacy; and the apparent impossibility of acting on it may strike one more vividly than the fact that he can do some 50 per cent of the work of selecting the two immediate ancestors of his own offspring. In other words, he can exercise some choice as to a marriage mate. That ancestry determines offspring we do not doubt when we apply the principle to plant life or to the lower animals. Yet there are still some among us who are so in love with the idea of freedom and self-creation that they can not bear to be predetermined by any who preceded them, and who, if they could, would probably refuse to have ancestors at all. Well-meaning men have sometimes scouted the influence of heredity [1] because of a mistaken idea that the acceptance of it implies fatalism, with consequent hopelessness and supine surrender to evil impulse. Actually, he is a greater fatalist who ascribes a monopoly of creative or destructive power to the ordinary environment. There is just as much and just as little fatalism in heredity as in other branches of science, and that is the "fatalism" of law. Why not act as an ally with it instead of a pitiful rebel against it? We do not know all the laws of inheritance yet, but that phrenomental traits are inherited and that they condition mental health, there is no reasonable room to doubt. We must make the best of it.

[1] Consider the following from Jacob Riis: "The word has rung in my ears until I am sick of it. Heredity, heredity. There is just one heredity in all the world that is ours — we are children of God, and there is nothing in the whole big world we cannot do in His service with it." — *Proceedings of The First National Conference on Race Betterment*, p. 246.

Study your inheritance and make the most of it. — If you had inherited a kingdom, you would certainly want to understand that kingdom — know its resources, the temper and traits of its people, and the conditions to be met — before you attempted to shape its destinies. Now, your mind to you is a kingdom. There are more neurones in your lower brain than there ever were citizens in any country. You can not afford blindly to muddle through, or merely to imitate someone else whose "kingdom" is a very different one from yours. When Benvenuto Cellini was besought to change his occupation so as to make more money, he replied, "Each bird sings its own note." Before you attempt to shape your destiny, you need to know your resources, the temper and traits of your neurones, and the conditions you have to meet.

How to accomplish this has already been discussed in Chapter XI.

HYGIENE OF BODY AND BRAIN

Look to your blood stream. — "Blood" has long been a key word in religion, inheritance, and medicine, and deserves still to be so in hygiene. We want to be of "pure blood," not only by heredity but by hygiene. As we inventory the systems of the body, we find that most of them may be regarded as serving the blood: The digestive system prepares nutriment for the blood stream; the circulatory system bears it about, the respiratory system purifies it; and so on through. To poison the blood stream is to poison the well from which every cell drinks. The function of this chemical transmission stream appears to be exceeded in importance by but one other, that of the nervous stream of transmission.

Use brain to save brain. — There is an old saying that tells us to use our heads to save our heels; but we must also use our heads to save our heads. The brain is a vicarious organ; it experiences for all the other organs, suffers their pains and is exhausted by them, yet has no receivers for injurious stimuli, to warn of damage done to itself. Its hemispheres may be rubbed, burned, or pinched to pieces without eliciting any considerable response either from bodily organs or from other parts of the brain. And although all experience is in the brain, one seldom locates any portion of experience very definitely there, or even the consciousness of self.[1] Since the brain saves other organs, it should be allowed to save itself also.

The hygiene of brain, as distinct from that of mind, would direct attention to the care of the organ as a kind of biological battery. As such, it must not only be supplied with that precious liquid, a pure, rich blood stream, but must be given time for "recharging," must be protected against drainage by waste, and must not be drawn upon to the point of depletion. Sleep not only "knits up the ravell'd sleave of care," but provides the only ideal condition for the rebuilding of the brain cells. So long as one is awake, there is either waste or work going on. Even if the brain had nonconscious functions only, it would still need sleep in the sense of comparative inactivity.

Further, many stimuli whose effect is largely physiological, act with considerable constancy and seem to affect the stream of transmission at its subconscious level, draining and wasting it. Such are abcesses, defective teeth and eyes, etc. Such matters should be discovered by periodical exami-

[1] President Roosevelt used to say that he was about four inches back of his eyeballs.

nation and remedied when found. The exhaustive effect of various stimuli on the kinetic system, of which the brain, from our present standpoint, is the most important part, has already been mentioned.

Probably the most widespread offense against the brain is that of muscular overwork. Among farmers, housewives, and laboring people in general, appear many who have suffered such strong and frequent administrations of physical fatigue as to render them, one must almost think, permanently immune to rest, and henceforth incapable of that higher mental life to which their inheritance entitled them. Here, very likely, is one explanation of the birth of bright children from apparently dull parents. The acquired condition of brain is not transmitted.

For our brain's sake, let us try to see that our load is proportioned to our power.

ENVIRONMENT

Seek suitable environment, physical and mental. — Selection of environment must be an individual, personal problem. Physically, we know that the climate which cures one kills another, and that what is one man's meat is another man's poison. Doubtless the same holds true mentally. A patient who could not walk the streets of an eastern city without growing mentally ill moved to a section of the thinly settled west and lived there happily.

There is a " mental atmosphere," consisting largely of the suggestions we receive from the looks, words, acts of those about us and the personal " tracks " they leave on their environment, which may be more elevating or depressing than climate. Experiment shows that we are influenced by stimuli of which we are not even conscious. To provide a

healthful mental environment for children is a duty which ranks with the provision of daily bread, clothing, and shelter.

Avoid extreme conditions of stimulation, inhibition, and fatigue. — Not all the evils of highly exciting stimuli can be traced in this study; but in general, they drain and exhaust the nervous battery, wasting its substance and perhaps causing " shock," with long lasting and lamentable results. Fearsome things seem to cause the greatest phrenomental destruction; but it is not true, as seems commonly supposed, that disagreeable experiences only are exhausting, and that pleasure, however intense, is always upbuilding. All intense stimuli set the personality forces for a lavish outpouring of energy, and our most exciting experiences, agreeable or disagreeable, are the flame of a bio-mental explosion. The massive mental flushings, the furore of the athletic contest, the sexual surge, the religious ecstasy, may all be worth while occasionally, but they are costly, and it is well if the inundation of mind comes as an orderly flood tide, " too full for sound and foam," bearing us higher, and not as a routing torrent which carries away the ancient landmarks of the soul and leaves only barren, stony-channeled gorges in its wake. The lesson is, to seek, for the most part, mild, agreeable stimuli, well within our power of negotiation.

The rousing of many or strong desires that can not be satisfied means the imposing of a great labor of inhibition on the integrative centers, with consequent strain and fatigue. The " government " of a brain, like that of a country, may break down from constant effort to restrain unruly forces.[1]

[1] This warning, to avoid conditions that impose overinhibition, leads one to ask what he *can* do with any impulse, trait, or tendency that can not conventionally or morally be expressed, except to inhibit — to suppress it. The answer has already been presented (in Chapter XII).

Monotony appears to be another type of fatigue. We all know that we can use a finger or an arm until its muscles lose their power and refuse to function. In a similar way, it seems to be quite possible to fatigue local areas of the nervous system. An example of it, evidently, is the condition spoken of as "writer's paralysis," in which the writing hand refuses longer to wield the pen, but does not lose its cunning for the doing of other matters, indicating that its muscles are still in good condition but that the nerve cells which control the writing muscles are fatigued out of function.

Gulick [1] tells of a young soldier who was ordered to watch a hole through which a spy was expected to creep, and to shoot him before he could get through. The soldier watched for an hour with gun cocked and eye on the hole. Although he had shot men before, and was not at all unnerved or greatly excited at the prospect of shooting another, he afterward declared this hour to have been one of the most fatiguing of his life. Here we have a monotonous use of what we may call the watching neurones, with constant strain, on the part of the integrative centers, to inhibit practically all else.

An unvarying round of daily duties without diversion may bring into an unwholesome condition large tracts of the nervous system. Although monotony of routine is not likely, alone, to cause serious mental illness, there is a moral in the story about the farmer who said there was no earthly reason why his wife should have gone insane, for to his certain knowledge she had scarcely stepped out of her own kitchen for fifteen years past. In many such cases, we may also suppose that there is strong brain tension due to the liberated energy of unsatisfied centers such as those for

[1] In *Mind and Work*, page 145.

music, art, or other forms of interest, and that this energy at length sweeps away the gradually reducing forces which have hitherto held the stream of transmission within the neuronic channels of sanity.

SELF-ADJUSTMENT

Keep in touch with the world and play your part in it. — A young woman whose angry father drove her soldier lover away, refused to leave the room where last she had seen her loved one. She shut herself up there for years and grew unhealthy-minded. Her course involved at least two errors in hygiene: she cut herself off from the stimulating influence of the world, especially the vitalizing influence of companions; and she failed to pursue any large purpose, to give her mind invigorating exercise.

Compare with this case another, that of a man of seventy-five years, who had just been promoted to the position of consulting engineer with a large electrical concern. He bought an automobile but sold it after two months, saying that it encouraged him to ride, whereas walking kept him in better condition. He was alert and active in body and mind, and when walking kept the pace with young men. His people urged him to retire from active duty, but he refused, saying that retirement would cause him to deteriorate.

To fail to keep in touch with the world, or at least some significant part of it, is to let the stream of transmission sink from lack of stimuli. To cease from activity is to begin shrinking and fossilizing. Each person of us, like each cell unit in the body, needs to receive from and to give to the other units about him. In other words, he needs to keep circulating through his organization the forces that make for life.

Recognize and accept real conditions, and actively meet them. — The great temptation of the weak- or ill-minded individual is to assume or take for granted that a condition exists if he wants it to exist, that he is handsome, wise, powerful, and that his policies are succeeding; or that the unwelcome condition is nonexistent, that the disease which is fastening itself on him is a mere idea which can be thought away, or that, as the impotent fox put it in the fable, the grapes, when one can not get them, are not sweet but sour. He adopts the unwise policy of keeping up his courage and maintaining faith in himself by disparaging all else in comparison with that self.

The vigorous, healthy-minded person is distinguished by his keen determination to get close to the breastbone of the facts. If he finds these facts less favorable than he had hoped, he " rises to the occasion," seeks the best thing to do, and sets about doing it, knowing that to do any sensible thing is usually better than to do nothing. Mental hygiene, let us remember, is largely a matter of learning to feel the right feeling in any situation. To the stimulus, *difficulty*, our first response should be *courage*. The lesson can be learned. And the way difficulties vanish when faced courageously has proved a heartening amazement to multitudes. Men even learn to seek obstacles for the sake of practicing on them.

Practice adaptability. — When a certain vigorous writer, fond of all sorts of physical activity, was one day told by his physician that he must give up all muscular games and sports, never to return to them, he replied, " Very well, I can still work on, sitting right here in my study." On the other hand, a diabetic patient who was told that his life depended on his observing given restrictions in his diet, was

unable to control his appetite and paid the penalty of death. The practice of adaptability from day to day may enable us, in time of stress, to save temper, worry, energy, or even that which is more precious than life itself, mental health.

There are those among us with overfunctioning self-centers who feel that if the environment does not keep step with their mental processes, they have in some way compromised themselves and been victimized. A normal school student approached his principal with the complaint that one member of the faculty was not smiling at him as he thought she should when she greeted him in the corridor. Others permit minor psychic wounds to remain unhealed, building their personalities about these mental abrasions as a growing tree preserves and enlarges its old scars. A child of twelve, when asked to recite a poem he had learned, forgot his lines. The listeners made fun of him. At twenty years of age, he could not be persuaded to speak in public. A man once fainted during a sermon. The result is that whenever he goes to church, he finds that he can sit through the service until it is time for the sermon, when the feeling of faintness comes over him and he is compelled to leave.

Now these bits of behavior all have their grooves plowed into the nervous system according to the laws of readiness, exercise, and effect, and through the action of these very same laws such ill-starred pieces of learning can usually be rectified. The teacher has here a Titanic task, not only to educate her pupils, but to reëducate them after they have been miseducated by many a conflict, crisis, or shock for which she, probably, was not responsible. She must form and re-form healthy neurograms, both in them and in herself, and she must do it with plan and purpose.

No one lacks opportunity to improve himself in power of

adaptation. We can practice adaptability to personal condition on our off days, to unfavorable weather and untoward events, to the pinchings of a thin purse, to rasping human natures, to elections that go the wrong way, and even to our "fate," an undesired but unavoidable type of life. But that is no reason why we should rest satisfied with all these things, or make no effort to improve our condition.

SELF-MANAGEMENT

Introspect impartially and cultivate out-minded concentration. — If one is put in control of any situation, the first thing he wants to know as a means to management is the facts. The facts in this case lie in that inner kingdom which we alone can explore. Of course no one should observe the doings of either mind or body morbidly, nor keep up a meddlesome self-tinkering. It is well if one can learn to take himself objectively, observing his mind as he observes the behavior of a bird, or any other fact in nature. To say frankly to one's self, "I am angry, or afraid," and then take measures accordingly, is good hygiene. To tell an inward lie and then let the ailment go, is bad.

To be out-minded is to center one's consciousness, in general, on something other than itself. Concentration means giving one's self wholly to the matter in hand, without dawdling, hurrying, or flitting nervously from point to point. It is one of the mental fine arts, and should be learned by practicing, at first, on subjects in which interest flames without fanning.

Do not regress; sublimate. — The stream of transmission may take the lower, primitive-man channels through the brain, or the higher channels of modern idealism and aspiration. There is a "natural" level and there is a "spiritual"

level. The natural, animal, instinctive brain paths are wide open by inheritance, are easy to follow, and if followed freely are quite sure to lead us astray. They constitute the "broad road." To travel it is to regress toward the condition of the lower animal and the savage, whereas menticulture requires that we let the ape and tiger and savage in us die. We should humanize and spiritualize, not animalize — and we need to do it for health's sake, to say nothing of morals.

To sublimate an experience is to guide the stream of transmission which bears it, into higher brain channels, and especially to *express* it on a higher level. Something makes us angry. Instead of snarling or fighting, we devote to harder work on our task the explosive energy which we feel. A boy was observed to practice on the piano, at certain times, with more than ordinary energy. When asked the explanation, he replied, "Well, you know I don't swear; but I feel like it at times; and then I go and take it out on the piano." Bitter grief, instead of driving us to morbid aloofness and lonely bitterness, may raise us to deeds of devotion. We must move up, and not down, in our brains. When the Wideners, father and sons, were lost at sea, the widowed mother built the great Widener library at Harvard in their memory. When Charles Crittenton was robbed by death of his daughter Florence, he caused Florence Crittenton missions to spring up over the land.

> Out of my stony griefs
> Bethel I'll raise;
> So by my woes to be
> Nearer, my God, to Thee.

Pit trait against trait. — Man is a puny creature in comparison with the mighty machines he makes and the great control he exercises over his natural environment. How

does he get these splendid results? He creates nothing new. He simply pits one natural force against another.

One must do the same within his psyche.[1] In fact, the principle is constantly operative in human nature, but we may fail to make the most intelligent use of it. The small boy is afraid to try the stunt or take the plunge, but somebody's " dare " pricks him on till he crosses the Rubicon. " Come back here, or I'll lose my job," shouted an attendant to an insane patient who had jumped into the water and was swimming to escape. The patient was so attached to his kindly attendant that he turned and swam back to the shore.

Here is one of the secrets of maintaining mental balance. Against our tendency to worry we may pit the fear that we shall actually make things worse by worrying, or the love of sport or game which will enable us to lose ourselves in quest or contest. Here appears the value of a hobby — a remedy or prophylactic for so many ills. When Oliver Wendell Holmes was giving advice to young Edward Bok, the good Doctor warned the boy that though he might forget all else that had been advised, he must never forget to have a hobby.

If we are to pit trait against trait, we must know our traits; and if we are to manage children by this plan we must know their natures rather intimately.

Establish a mental constitution. — A constitution is fundamentally a set of principles laid down as a permanent guide. A nation needs one to prevent its people from following the impulse of the hour. An individual requires one no less to guide the impulses of his neurones and avoid filling the future with regret. One of the most notable

[1] This rather mystical word, *psyche*, here indicates the totality of all one's neurograms, plus the consciousness, the mind, that would result from the activation of all of them.

examples of framing a personal constitution appears in Franklin's *Autobiography*, where we find the colonial patriarch setting down the thirteen virtues which he valued most, and a rigorous method of schooling himself to learn, ordain, and establish them.

> It may be well [he says] my posterity should be informed that to this little artifice, with the blessing of God, their ancestor ow'd the constant felicity of his life, down to his seventy-ninth year, in which this is written.

Of course, each must have his own individually adapted constitution, and it is well if he can make it himself. It may grow like the British Constitution, without putting much on paper; or it may be found in the efforts of others. To some, such a piece of literature as Kipling's "If" serves as guide and inspiration, tiding over many a bad day and helping to push through the fog till there is a clearing. To "keep your head," to "trust yourself," and to follow through the other virtues there catalogued—that is to "be a man."

One's constitution, perhaps reënforced with slogans and mottoes, keeps him unified, prevents disintegration. It helps him to maintain a smooth control of his activities, ordering well his mind within and his affairs without.

Maintain a purposeful, self-assured, high-level integration. — This precept is a continuation of the last. One's constitution must have an executive officer, and as applied to himself, probably every man believes in home rule. Seated in our highest centers should be the inmost *I*, with stable poise and a "royal margin." One writer has urged, in proof of the deity of Christ, his changeless *serenity*. One of the oldest pieces of writing in the world [1] contains the advice,

[1] This is *The Precepts of Ptah-hotep*. The author was an Egyptian noble of about 2500 B.C. The precepts are written in verse on papyrus now preserved in the Louvre in Paris.

"Keep thyself from every attack of bad humor." This supreme self should aim to accomplish that negative task. We can do it, in part, by pitting one trait against another. For example, let us put a little praiseworthy egotism up against our irritability and say, "I am too great a person to be upset by small things — or by anything."

Serenity is not always, if ever, a mere negative virtue: it involves those prime qualities, selfhood, self-assurance, and self-control. But there is a positive side, a purposive pursuit which, like the forward movement of a bicycle, makes balance easy. Nothing else so helps us to lay aside every weight and the sin which so easily besets us and to run with patience and perfect happiness the race which is set before us, as the consciousness that we are about the business which we are supremely called to do. This makes us feel that, since each of us has a different work, there is room enough in the world for all to succeed. The jealousy and envy incident to crude competition are lost in the solvent of good fellowship, as we feel that we and our companions are all moving happily upward together. Let us "keep serene and wholehearted."[1] But how, practically, can one carry out these precepts?

Practice the personality you wish to be. — Our natures grow much as does our skill in vocation or sport, according to the laws of readiness, exercise, and effect. We should be amazed if a novice in baseball went on the field and batted home runs at pleasure; yet we seem to expect that skill in self-management, which is a much finer art than baseball, will come without effort or deliberate practice. The fact is, we are practicing something all the while, and other things being equal, we shall become that which we

[1] See Irving Fisher and Eugene Lyman Fisk, *How to Live*, Ch. V.

practice most. As the musician works long in his studio to prepare for public performance, so may we have to devote ourselves to the art of menticulture privately, when not under strain, to enable us to stand unmoved in every emergency.

You admire the kindly voice of your friend over the telephone, his cordial handshake, his perfect poise and self-assurance, and you wish they were yours. Beauty does not scruple to practice its engaging smile before the mirror. Why should Health hesitate to practice when off duty, as it were? In your room, or as you sit in the theater or walk along the street, *be* that big, wholesome personality you wish to be. If a king, a royal one, were to black boots or chop wood, he would still be a kingly bootblack or woodchopper. We can all gain the royal poise even if we do not wear the royal purple.

SUMMARY OF RULES FOR MAINTAINING MENTAL HEALTH

I. Inheritance
   1. Choose good ancestors.
   2. Study your inheritance and make the most of it.

II. Hygiene of body and brain
   3. Look to your blood stream.
   4. Use brain to save brain.

III. Environment
   5. Seek suitable environment, physical and mental.
   6. Avoid extreme conditions of stimulation, inhibition, and fatigue.

IV. Self-Adjustment
   7. Keep in touch with the world and play your part in it.
   8. Recognize and accept real conditions, and actively meet them.
   9. Practice adaptability.

V. Self-Management
   10. Introspect impartially and cultivate out-minded concentration.
   11. Do not regress; sublimate.
   12. Pit trait against trait.
   13. Establish a mental constitution.
   14. Maintain a purposeful, self-assured, high-level integration.
   15. Practice the personality you wish to be.

CLASS EXERCISE

Criticize and revise the "Rules for Maintaining Mental Health" in such a way as to make sure that they are applicable to children. For example, should a child be encouraged to study his inheritance, to introspect, etc.?

Visit a school and observe, so far as possible, the mental condition of teacher and pupils.

Later, discuss the extent to which children in home and school are taught to observe your code of rules, that is, in spirit and substance. What common evidences are there of good or bad mental inheritance? Comment on the mental environment of the average home. Of the average school. What danger of extreme conditions of stimulation, inhibition, or fatigue? In similar manner cover the remaining points.

FOR FURTHER STUDY

1. Give instances of what appears to be the inheritance of mental traits. Give instances, if you know of any, that appear to violate the principle of mental inheritance.

2. Can one really rest through change of occupation? If not, how do you account for the prevalence of the idea that such rest is possible? (Consider different sets of muscles used in the body, and of neurones in the brain.)

3. Mention some ways in which children can be encouraged to practice adaptability.

4. Crile calls attention (in *The Origin and Nature of the Emotions*, p. 46) to the striking differences, after a railway wreck,

between the after-effects in the passengers who were conscious at the time of the accident and those who were asleep or drunk. Why should the latter be so much less affected?

5. One of the leading physicians of this country advises marriage for doctors as a means of reducing the number of suicides in the medical profession. Which of our rules applies to this case?

6. What have we found so far that helps to make clear the many statements about the "higher" and the "lower" nature, the "spirit" and the "flesh," etc?

7. Why is a prize fight so much more popular than a prayer meeting? Which, if either, is regressive and which sublimational? Show how the Salvation Army sublimates the fighting instinct to a spiritual level.

8. In which brain centers, speaking generally, are will power and self-control seated? When I control myself, which part of the brain does the controlling and which part is controlled?

9. Under what circumstances should one be willing to amend his mental constitution?

10. Dante quivered with fear when told by Virgil to mount onto the back of the monster Geryon.

> But shame soon interposed her threat, who makes
> The servant bold in presence of his lord.

He then mounted onto Geryon's huge shoulders. What point in this chapter is here illustrated?

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. Management of the feelings. (Gulick.)
2. Inheritance, especially mental inheritance. (Galton. Starch.)
3. Balancing factors. (Wells.)
4. Various types of selfhood. (Peters.)
5. Further rules for mental health. (Gulick. La Rue.)
6. The principles of mental hygiene. (Burnham.)

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PART IV: JUVENILE

The Mental Hygiene of Childhood and Adolescence

PART FOUR

CHAPTER XIX

Our Attitude toward Children

Exercise. — "Here, for instance, is a university professor, a doctor of philosophy, who persuades his children, by use of the razor strop, to eat what is served. Here is a doctor of medicine who daily stops his child's crying by the bribe of a nickel. Here are an engineer and his wife who for months kept their son, illy clad and fed, in a basement. They thought him too stubborn to acquire proper toilet habits. Here is a preacher's wife who tried to teach her son obedience by threatening to drop his baby sister to the first floor— a hotel scene with the trio at the banister on the third floor. Again it is a business man's wife who allowed her daughter to make and then break a certain promise every school day for six weeks. Now it is a farmer who beats his boys for stealing (?) muskrat traps from a neighbor, only to have them borrowed again surreptitiously the following Sunday. Then it is a juvenile court judge who hastily prescribes a beating for some boys found pounding a cat against the sidewalk — whereas a more careful examination might have revealed their need of instruction concerning the old adage about cats and their nine lives. Since one group of boys used a cat in a similar way against a barn door to test the often heard remark, it is conceivable that this group was moved by the scientific spirit of inquiry rather than by sadistic impulses. And so, all of these adults and many others are not necessarily vicious. They are simply uneducated with reference to principles and techniques in rearing children." [1]

What is at fault in the attitude of the adult or adults in each of the above cases? What change would you suggest in each instance?

[1] Alma L. Binzel — in *Mother and Child*, January, 1923.

What is a child? — Observation indicates that there are many who, having somewhat forgotten their own childhood, naïvely form a kind of cast-iron idea of what a child is or should be, and then try to make the child fit that form, often a distorted form. They may regard him as an ornament, as a nuisance, or as a kind of trained animal — something to be ruled, especially when they find they can not rule the rest of the world. Frequently, he is regarded as a kind of grown-up soul in a little body, and expected to act accordingly. In the author's judgment, some of the worst conceptions result from ignorance or ignoring of the laws of inheritance, and the belief that a child is made, almost *created*, by the course of training through which he is put. Accordingly, he is persistently and vigorously stimulated, as if he were a radium-like center of exhaustless energy, or is treated as if he were a precious piece of amorphous human clay which will set and lose its value if it is not shaped with very vigorous educational strokes, and that right early.

The phrase, "a child," is much like the phrase, "a chemical," or "a plant," or "an animal." We have yet to find out the *properties* of the chemical, the *traits* of the plant, the animal, the child.

A child is a unique ensemble of traits.

Source and constitution of child nature. — Let us review and apply some facts already set forth.

Each new nature is derived from a "stream" of germplasm composed of two branches, one from the father, one from the mother. This "stream" contains a multitude of determiners, trait-bearing chemical particles. In an accidental way, as we with our limited knowledge are compelled to say, but somewhat as a hand of cards is dealt out from a pack, a group of determiners is segregated to form the basis

of the new being. There is little likelihood that the same hand will be dealt out twice, or that nature will produce duplicate personalities.

The various trait centers of the brain develop and ripen at successive ages, which vary widely for different children. From the observation of many cases, we could set down the average age at which each trait ripens, but the result would be only a table of averages which would be sure not to fit the next child we studied. One may begin to show " self-assurance in the presence of a group " at age three, thirteen, or twenty-three and still be, in the best sense of the word, normal.

Most of these trait centers find at least some stimulation in an ordinary environment. Some of them, but different ones in different children, become so powerful as they ripen that they easily push the others into obscurity and secure for themselves ready access to the motor channels, possession of the " final common path " that leads to action. Others are so weak, and yet so necessary in our common life, that they must be nursed along and given every opportunity for expression. With maturity, we expect the brain to become integrated about its leading centers, the personality about its leading traits.

Why attitude counts. — Our attitude counts, not only because it determines what we do to the children, but because it creates and constitutes, very largely, their mental environment. Even when the children are mentally sick, their elders must try to keep sound, self-controlled, " serene and whole-hearted."

When the sheep sniffs with fear and runs, the lamb follows. If one person shows nausea and vomits, the vomiting center of others who are present may be so stimulated that they

nearly, or quite, follow suit. Anger begets anger; courage produces courage; and so on.

Every trait probably, but the instinctive trait especially, has what McDougall calls "a special perceptual inlet (or recipient afferent part)" [1] that makes us especially susceptible to any expression of that trait in those about us. We can readily understand how, under primitive conditions, the very survival of children depended on their quick response to suggestions in the behavior of their elders. It is no wonder, then, that they look at the adults around them to read, from signs which their childish minds are quick to interpret in feelings if not in words, the kind of affect which they are expected to feel under the circumstances. A child who had hurt his finger went with it, bleeding, to his nurse, explaining with some amusement that his finger was "all jammy." Had anyone showed alarm and cried out, probably he would at least have equaled the outcry.

Sympathy, *antipathy*, *imitation*, *suggestion* — these are words of mighty significance in this connection. As parents and teachers, we often hope that our actions, many of them, will be forgotten by the children, but that the influence of our words will live. The opposite is nearer the truth. Actions sink deeper than words. If the walls of a schoolroom were made of mirrors, so that the teacher could see herself in action from time to time, and if she could in some measure relive her own childhood, she would understand much better her effect on her pupils, and their responses to her personality. Perhaps we may beg indulgence to change Burns's rhyme and make it run,

> Oh, would some power the gift concede us
> To read ourselves as children read us.

[1] *Introduction to Social Psychology*, p. 94.

How, then, may one assume a correct attitude toward children?

Keep your poise. — Poise is quiet integration of all one's powers for the purpose in hand. Many teachers get the idea that whatever is done in a school must be done rapidly and under high tension, carrying the spirit of drill throughout. Sometimes this is due to the influence of domineering supervisors whose minds are on the work instead of the children. "Make it snappy" often means "Make it frantic." It may be made so "snappy" that nerve paths are blurred for years or for life. Education for speed too early is education for blundering along indefinitely.

Look upon children's behavior dispassionately. — Poise includes this also. The chemist does not get angry, whether his chemicals fume and boil over or refuse to act at all. The gardener produces his wonderful flowers and fruits by cultivation, not passion. Especially would he avoid passion if it acted like a withering heat or a frost, and with children it may do so.

Even if childish behavior aims at the persecution of the teacher, though she correct the behavior, she will seek no revenge. Let us learn again from our supposedly less professional kinsman, the animal trainer. Ellen Velvin states [1] that a man who had engaged with the manager of a circus to become a trainer was careless until his coat and part of his back were taken off by a tigress. He then persecuted and annoyed the animal. The proprietor at once interfered, telling him that anyone who cherished feelings of revenge against a wild animal would never make a trainer. Later, when playing ball with a lion cub, he lost his temper and cuffed it for refusing to give up the ball. An instant fight

[1] *Behind the Scenes with Wild Animals*, p. 102.

resulted, and as the would-be trainer persisted in cuffing in earnest, he finally refused to tackle the lion again, apparently gave up the idea of animal training, and left the organization.

A further note from the same book runs as follows:

> One of the most difficult things to instill into a man who wishes to be an animal trainer is quietness and coolness. Once a man allows himself to get worried or flustered or to lose his temper . . . he is at a disadvantage which the animals recognize and are only too ready to take advantage of. And should he enter the arena feeling nervous or unstrung he may be very sure that his animals will know it and he will be lucky if he gets through the performance without an open revolt.

There may be times when anger exhibited before or toward children will produce an approved result; but such times are rare. We should follow the example of the animal trainer and leave unstimulated, so far as possible, those brain centers which we do not want to see roused into action.

Observe the child's behavior understandingly. — In observing a child, keep ever in mind the question, "What trait is expressing itself? What is the child really trying to do?" Many acts, like many plants, look much alike, but have at heart a very different growth motive.

One of the most common sources of trouble in child training is that the child and the trainer are set on different purposes.

Alfred Russel Wallace, at school, used to lean his elbows on his desk till he wore holes in his jacket sleeves. When his mother made him some black calico sleeve covers, he protested that he could not wear them, as he would be looked upon as a "guy," etc. However, she placed them in his pocket and told him to put them on just before he entered school. He could not bring himself to do it; but a day or two later, he was called to the master's desk at his mother's request and compelled to put the sleeves on. He later said

that wearing them was perhaps the severest punishment he ever endured. What trait was here expressing itself? Not stubbornness, nor rebellion, nor disobedience, nor dislike for his mother, but the desire to escape social humiliation. Young Alfred wanted to be like his fellows, and not conspicuously different.

Herein lies the difficulty in laying down general rules. We can not say that the crying baby should always be taken up, nor that he should never receive attention. The question is, What does his cry express, and what will be the effect of attending to him?

Take the child seriously, and as a potential equal. — Of course taking a child "seriously" does not mean solemnly, with lengthened countenance; but one should respect a child as he does himself, or his grown-up neighbor. No child should ordinarily be made the butt of teasing, or ridicule, or of any other treatment that courteous adults do not practice on each other.

It is often said that this has been a man's world, with women regarded as incidentals. But it is doubly an adults' world, with childhood thrust into a corner. If anyone doubts it, let him watch the man with his sporting page or the woman with her novel or fashion sheet, while the children hunt for suitable childhood occupation and are with impatience or violence subdued from time to time. If the women who have been clamoring for their rights are sincere and honest, they will oppose the subjection of childhood, and treat children (even though they can not vote) as equals in the fundamental rights of life, liberty, and the pursuit of happiness.

A wise "old maid" who had heard of a "bad boy" in her community, a boy who was regarded as harum scarum

and a destroyer of gardens, invited him to help plant her garden. He not only did so, but also made one of his own, and became a real companion to her in his gardening interests.

She found him a shy, sensitive lad, terribly afraid of being laughed at. It seems that one of his father's amusements had been ridiculing the child and making fun of anything he said that was at all out of the commonplace. Of course the father meant no harm by it. He was working hard to pile up money in the bank for his son to have later, but his habit of making fun of everything that the boy did had caused the child to grow silent and reserved in mere self-defense.[1]

Treat the child sympathetically. — Sympathy (as we here use the term) is not pity, with its suggestion of superiority and inferiority, nor does it consist in saying "I am sorry for you," or "I congratulate you." Sympathy is feeling-in-common, the sharing of an affect. Ideally, the affect is not merely communicated from one to the other by suggestion, or suggestive expression of it, but arises in two or more hearts in common response to the same object or situation. We must allow the experience of the child — perhaps the failure to get to the picnic — to affect us somewhat as it affects him, and then gradually try to get him to respond, with us, to all situations in a superior, hygienic way. Continuous cold is said to cause the greatest bodily suffering, and perhaps continuously cold natures about us would cause the greatest psychic ordeal.

One great difficulty is that we lack, or we fail to exercise, insight. We do not appreciate what the child is "up against." A long-legged boy who hated both his school and his teacher was called on to spell. Slowly he reared himself up atop of his elongated nether limbs.

"Well! children!" cried the teacher, "Look at Roger! He has *actually* found that there are some feet at the end of

[1] Elizabeth Harrison, *Misunderstood Children*, p. 158.

his legs! He is standing on them! Really, Roger, I congratulate you, that you didn't try to spell sitting down to-day!"

There were grins and titters, and a boy so wretched and embarrassed that he failed even in his pet branch, drawing, with dolorous blushings and many wipings of the brow.[1] The teacher's attention was called to the boy's suffering under her persecution, whereupon she corrected her attitude. The result was a happier boy and a better teacher.

Give the child liberty under law. — We take pride in the fact that our fathers fought and died for liberty. Their children should grow up in it. But our fathers also found that liberty needed a Constitution, and their children should grow up in that. Ethically, desires should be gratified unless there is a reason for not satisfying them. Let us apply the same to children, giving them all the happiness we can under the laws of their own welfare.

But human law must not cut too small a sphere under the great dome of liberty. Our ideal should be one of positive direction and leadership rather than of negation and restraint. We do not like either a president or a parent who is merely a veto king. We expect some constructive suggestions. Our attitude should not be that of "Find Johnny and whatever he is doing tell him to stop it," but rather, "Guide Johnny into doing whatever is needed next for his developing traits."

Further, the few requirements that must be insisted upon can usually be enforced by tact, kindliness, common sense, and imagination.

Four-year-old Freddie wouldn't eat meat. The doctor had said he should, and his father offered him a nickel as

[1] *Misunderstood Children*, p. 19.

extra inducement, but he refused, saying " I don't like meat, and I won't eat it." A friend intervened. " Do you know what that little stomach of yours will do," she asked, " if you chew up a piece of that meat and swallow it? "

" What will it do? " he queried.

" It will say, ' That boy has sent down some beefsteak, so I can make good bone and muscle that will help him to run faster and jump and climb a tree.' "

Soon the boy's imagination was caught, and he ate all his meat in glee.[1]

It was once thought that a metal could not be both strong and light. Yet we have discovered aluminum — and the teacher has discovered that she can be both firm and kind at once. She can be filled with the spirit of love, and still maintain discipline and insist on good behavior.

Take the child contentedly for what he is. — Let us be cheerful about our children, even if they are not all that we could wish. They may have brains enough to make money, even if they never do anything better.

Many parents and teachers agonize in soul and subject a tender child to torture in the effort to force out of him something that was never born in him. It is our simple duty to make the most of what the child is by his special inheritance, and remain open-minded as to his future. Mapping a child's future in advance and then forcing him to fit the map is the source of much heartache. The parent often thinks that if he had had the opportunities enjoyed by other children, he could have made something unusual of himself; these opportunities he is determined to give his child, and he confidently expects the unusual future. But the parent is often deceived about what his own future might have been;

[1] Elizabeth Harrison — *The Unseen Side of Child Life*, p. 44.

and the child is doomed — or privileged — to express his own capabilities, not his parents' fancies. It is our duty to give the children an all-round environment, to watch for the appearance of traits, and to develop these, when they appear, in the best possible direction.

Strike the affective note which you want to prevail. — A song has a keynote, and a social atmosphere has a key affect. The host and the hostess feel this, and start their company off cheerily chatting. The public speaker feels it, and challenges his audience with a spirit of good will. The teacher also must realize it. She need not say much. She can make her school gloomy or glad, angry and rebellious, or devoted and coöperative, without uttering a word. She may think her pupils are not responsive. Ultimately they are bound to be. But even if they were not, it would be best to maintain the attitude of serenity, uplift, and expectancy. She must not think, however, that the keynote will strike itself. The dominating affect must be breathed by a kindly human spirit.

FOR FURTHER STUDY

1. Said a young woman, a teacher, "If I managed children's eating, I would put on their plates a little of each kind of food on the table and then make them eat it." Criticize this attitude and the recommended practice.

2. Near the stall of a blooded race horse, nothing but quiet, gentle behavior is permitted. How should we behave in the presence of children?

3. Do you think great teachers exert most influence by unconscious radiations of personality, or by their overt acts? Try to make clear what is meant by "unconscious radiations of personality."

4. Give examples among adults of affect aroused by its expres-

sion in others. Should one permit himself to respond in this way? Why or why not?

5. "It is our duty to give the children an all-round environment." Describe concretely what kind of environment this means to you.

6. Give examples to show how children respond reflexly through sympathy, antipathy, imitation, suggestion, to the affective state of parent, teacher, or other adult.

7. Miss Harrison tells of an American child who had lived in France and acquired excellent French, but who was not permitted by her mother to hear other children speak English. She spoke with her parents and a French maid only, and in French. She was prevailingly sad and lonesome. What is your opinion of such a plan? Give reasons.

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. Mental hygiene of animal trainers and training. (Velvin.)
2. The child's inner life as affected by his environment. (Harrison, *Unseen Side of Child Life.*)
3. Misunderstood children. (Harrison.)
4. Some extra-curricular problems of the classroom. (Glueck.)
5. Conditions of successful authority. (Morton, Part II, Ch. I.)

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[1] A reprint of this article may be obtained from the Joint Committee on Methods of Preventing Delinquency, 50 East 42d Street, New York City.

CHAPTER XX

Child Study from the Standpoint of Mental Hygiene

Exercise. — Reflect on your own childhood. What do you think were the most important facts, so far as your mental health was concerned, that your parents and teachers could have learned about you? Tell how you think anyone who studied you should have gone about it to find out these things.

Purpose of child study. — A six-year-old girl, healthy in body, had no objection to the actual doing of the things she was told to do, yet would refuse commands with an impudent look and a "No, I won't!" She also reported many delinquencies on the part of her seven-year-old brother — that he did not wash himself, clean his teeth, and so on. Further, she expressed peculiar ideas about the sex of boys and girls. All of these bits of conduct came from one trait-source: she was trying to regain her lost elation, positive self-feeling, and self-assurance. The peculiar ideas as to sex came from the fact that at three years of age she had cut her hair off and had then been ridiculed as "a little boy," and so had perhaps doubted her own sex. She had also gotten the idea that girls are inferior, and so wanted to be a boy.[1]

The purpose of child study is to explore the child's nature until we understand him, sympathize with him, and know how to guide him into his most efficient, happy, and healthy future. To do this, we need to know (1) the quality and (2) the quantity of the child in hand; that is, what different

[1] N. Niemeyer, *Children and Childhood*, p. 56.

traits enter into his make-up, and how strong each trait is. Of course, in our present quest, we shall keep mental health in the foreground.[1]

Spirit of child study. — "He who would understand animals thoroughly," says Wesley Mills, "must live among them, endeavour to think as they think, and feel as they feel, and this at every stage of their development." We can put "children" in place of "animals," and the assertion will still be valid. Hornaday insists further that we should study animals in their native haunts, not so much along our chosen lines as along theirs, and under conditions such that they exercise their own initiative.

It is interesting to inquire what a child's "native haunts" would be if he were allowed to choose them, and also how we can permit him to exercise his own initiative and still turn all his powers in the direction of modern social civilization. But that we should live with our pupils as much as possible, not merely exposing ourselves to them a few hours a day under schoolroom conditions, and that we should try to think as they think and feel as they feel — of these things there is no doubt.

Yet the sympathetic attitude of the child lover is not, alone, enough. We should take advantage of every method and means, even though as coldly mechanical as the "brass-instrument child study" which James used to decry, with which science can furnish us, only taking pains to keep each device, such as the intelligence test, in its proper and usually subsidiary place.

The attitude of the student of child life, then, may be described as sympathetic-scientific.

[1] An outline of child study from the standpoint of the mental hygiene clinic is found in Lillien J. Martin's *Mental Hygiene*.

The first approximation in child study. — Nature usually maintains a sufficient correlation between physical build on the one hand and traits of mind and behavior on the other, to enable the practiced observer to read off a fair approximation of the natures of many children almost at sight. Here, for example, is the large-headed, pale-skinned, thin-bodied child with the alert look, perhaps uneasy also and in almost constant action. "Nervous temperament," with all that is implied therein, is suggested at once. But let us not be too insistent on the correctness of first impressions. Though they may usually prove to be correct, we must still retain an open-minded willingness to revise, or even reverse them.

Longitudinal and cross-section views of child life. — Take a case to a specialist and he will usually begin, or end, by working out a case history. The teacher is coming to be a personality specialist rather than a mere educator of the intellect, and has a better opportunity than anyone else, except the parents, to make a penetrative, inclusive, life-span case history.

The case history and the cross-section view of the child's nature as he now stands before us, should supplement each other. But no snapshot, cross-section study, however carefully made, and with whatever tests, can possibly reveal to us all that we wish to know of antecedents, and so enable us to analyze present conditions so thoroughly or present so reliable a prognosis as we can with the help of a longitudinal, developmental, genetic study. At the same time, let us beware of a belief in definitely marked ages, or stages, the same for all children, and through which each child must pass. As before stated, traits may develop gradually or suddenly, and at very different ages in different children.

The time will come when teachers will know and plan for the child long before he enters school. When he does come, his record as infant, toddler, and runabout, with some record of family history as well, will be present also. Such an account of chief traits, on through the twelve years of school life, would be one of the greatest guides to mental health, and to everything else concerning the child's welfare, that could possibly be devised.

Which are the chief traits? — It is hard to decide which are the chief traits, for some children undergo changes almost as striking, in their way, as the metamorphosis of a chrysalis into a moth. Huxley early wanted to be a mechanical engineer, but "had to be a doctor." He actually became the most famous public lecturer, on scientific subjects, of his day. The enthusiasm of to-day is next year eclipsed by a new one. The lesson for us is this: A child is not only a unique ensemble of traits, but he can not be studied and catalogued for once and all, because he does not stay fixed. He may have, and often does have, a shifting center of integration. However, I suggest that one valuable index to chief traits is the amount of feeling which accompanies them, and which tends to make them persistent in their expression. Wendell Phillips, as a boy, used to place his Bible on a chair and preach with spirit to the other chairs.

In the development of the body, the part which is most copiously supplied with blood is the one that determines growth in that region. For example, the skull does not determine the size of the brain, as it was once supposed to do; but the brain — to which is granted about one-sixth of the entire circulation of the body — determines the growth of the skull. It is worth while to raise the question whether, in a somewhat analogous way, the amount of affect with which a

trait is supplied does not determine the amount of growth in that general direction.

Any prolonged depression or lack of affect, we know, is a danger sign. On the other hand, it is probably wise to give special attention to marked and recurring enthusiasms as indicating health and the general direction of growth. Darwin's enthusiasm, at ten years of age, for collecting insects and birds' eggs, was one of the most important things that could possibly have been recorded about him, or considered in determining his future education and career. Perhaps it also helps to explain why he forgot his Greek so easily.

As we look over the observations made on children, we are amazed to find how much consideration has been given to perceptions, memories, ideas, evidences of imaging and reasoning, vocabulary, and so on, and how little to the feelings. Yet the affects of the child, and especially the primary emotions (instinct emotions), are perhaps even more significant, both for his future career and his mental health.

A word of warning. — *Be careful in applying general names to traits.* If a child remembers tones well, we must not quickly conclude that he remembers all things well and declare that he has a "fine memory." A distinguished man, puzzled about his twelve-year-old son, consulted a psychologist, asking him to correct "lack of concentration" in the child. It was found that the boy had intelligence of a grade which would enable him to do college work. The treatment prescribed was just the opposite of what the father was giving. He was allowed to undertake the difficult advanced things for which he longed, and was permitted to drop subjects upon which he had appeared not to concentrate because he was bored by their simplicity.

Teachers often make the same error with regard to atten-

tion, stating that a first-grade child can not " pay attention " for more than fifteen minutes. Yet they attend for hours to that which spontaneously interests them, and without undue fatigue. We must distinguish between " voluntary " and " involuntary " attention, the effortful and the effortless types.

We have already noticed the term, " feeble-minded," commonly used to mean feebly-intelligenced. One of feeble intelligence may be strong and stable in affect, as will be shown later (page 314).

Be wary in reasoning from child to child. — Thomas Gainsborough, when a boy, loved drawing better than his school lessons, and instead of playing with the other boys, would wander off to study flowers and trees, sunshine and shadows. Thomas Macaulay went calling with his father one afternoon and happened to find a copy of *The Lay of the Last Minstrel.* When he got home, he repeated to his mother as many cantos " as she had patience to listen to." Harriet Martineau, when she was seven, fell in love with *Paradise Lost.* Barbellion, when a child, believed himself a great man in embryo.

To take these, or any others, as samples of all, would be a great mistake. Of course we shall go on, in our effort to understand childhood, reasoning from particular to general, from general to particular, and from case to case, as we must in this world. But we shall always regard a flesh-and-blood child somewhat as we do a hand of cards; however many hands we have held, we must carefully find out just what is in any particular hand before we know how to play it. Each child represents, on the part of nature, one more experiment, a new creative effort with a special product.

Be cautious in judging what trait is expressing itself. — Alfred Russel Wallace, as a boy, used to hold his spoon at

table in his left hand. On being told to hold it in the right, he felt that to do so would be to confess ignorance or clumsiness, and *that* he was ashamed to do. Accordingly, he waited to escape attention and then again used his left hand. This was thought to indicate obstinacy, and finally resulted in several days' punishment. Harriet Martineau, when a child, was habitually truthful, but lied to one person, her mother, because of fear. To her mother she would assert or deny anything that would " bring her through " most easily.

To realize what trait really is in action beneath the shell of behavior with which a child may surround himself, we need, so far as we can, to *be* that child, to imagine ourselves with his limitations, meeting his obstructions, and especially to feel, sympathetically, what it is he is trying to do.

Chief sources of information. — We shall next name some of the various fields to be explored in the study of a child, with suggestions as to what to look for in each. It is not expected that the teacher will be a specialist in each field; but she can at least glance over the ground. Fortunately, it is becoming increasingly possible to call in specialists when they are needed.

To remind us constantly that it is the conditions and causes of the child's mental health or illness which we are to search for, we shall employ general headings similar to those which appeared in the " Summary of Rules for Maintaining Mental Health " (Chapter XVIII).

1. *Inheritance and developmental history.* *a.* Inheritance — Given a grain of wheat in ordinary, normal environment, and we not only know its nature, but can tell its " fortune " pretty accurately. We can do the same with a White Leghorn fowl or a Jersey cow. Human heredity is more complex, but it, too, is a key to the future. Race and sex mean much

less than is commonly supposed; it is *traits* that count, in whatever race and in either sex.

We should note the general standing of the family, its strong points and its weak ones. Weakness will show in the form of extreme poverty (especially if long continued where other families have become affluent), disease, vice, and crime. Strength shows the opposite characteristics.

Rosanoff finds that heredity is the most important cause in constitutional nervous or mental difficulties, such as inadequate personality, paranoid personality, emotional instability, criminalism, pathological lying, sexual psychopathy, and nomadism. In more than half the cases investigated, " indications for commitment had arisen in the midst of an average environment and in the absence of occasion of special difficulty or strain." He adds that, on the whole, exogenous factors appear to be of but minor importance.[1] Dercum regards dementia precox as essentially " an affection of endogenous deterioration," and thinks it should be spoken of in the plural, as the insanities of adolescence. " Many and varied hereditary factors " enter into its causation.[2] Cabot states that psychoneuroses, in his opinion, are " always inherited, congenital states, something more than a symptomatic and temporary disturbance."[3]

To find that a condition is hereditary, however, is not the same as to pronounce it hopeless. If we find tuberculosis in our family, we take measures to avoid it, and usually with success. Where there is threat of mental trouble we must furnish the child such training and environment, especially mental environment, as will enable him to escape it.

[1] *Manual of Psychiatry*, p. 11.
[2] *Physiology of Mind*, p. 133.
[3] *A Layman's Handbook of Medicine*, p. 220.

b. Developmental history. — Were there any peculiarities connected with conception, pregnancy, or birth? What is there to report concerning infantile feeding or diseases? At what ages did the child crawl, walk, and start teething? Did he make normal progress in learning to talk, acquiring a vocabulary, and mastering the common usages of language? Has vitality been generally high? Has he suffered convulsions or fits? Has he had nervousness, head injuries, enuresis, somnambulism, or frightful dreams? Has he used tea, coffee, tobacco, or drugs? Has he shown peculiarities of behavior, or any exaggerated affect or lack of it, especially in the way of periods of depression?

2. *Hygiene of body and brain.* — Is the child's blood stream kept pure? If not, what is the source of contamination? Does he sleep sufficiently? Is he overworked? Has he poor eyes, teeth, or other defect that may be preying on his nervous system? About fifty per cent of retardation in school work, not due to feeble intelligence, is based on bodily condition, and there is no doubt that a great deal of affective warping has the same origin. The time must come when every child, as well as every adult, can have a complete examination at least once a year, with follow-up treatment if needed.

3. *Environment.* — Is there suitable environment, both physical and mental-social? What is the general nature of the community as to associations, gangs, amusements, etc.? What are the findings as to size of family and of house, movings, wealth or poverty, clothing, recreations, and so on? Is the family complete? Harmonious? Especially, is the child subjected to extreme conditions of stimulation, inhibition, or fatigue?

What traditions prevail in the home? The family is the vine, the children are the branches. They must not be too

much blamed if they show before the world the ideals and practices which have naïvely grown into them in the home.

4. *Self-adjustment.* *a.* Play and social life. — Here it is revelatory to run through the list of the instinct-emotions and ask how they function in the realm of the social relations. Does the child exhibit social fear, irritability, disgust with companions, tender feeling, etc.? Which dominantly?

Staying alone a great deal is likely to be either a mark of superiority or of peculiarity. The one who is much teased and " picked upon " usually bears the cause of it in his own nature. It is worth while to ask whether the subject is tactful and coöperative, or quarrelsome and a creator of divisions; whether he leads or follows in his group; whether he seeks elation by cheap means, and perhaps also the degradation of others; whether he seeks or avoids the other sex, goes with those older or younger than himself; whether he is open, frank, and cordial, or exclusive, self-concealing, and jealous; what his social employments and his recreations are. Such facts as these throw interesting searchlights on personality.

b. School record. — Since the teacher is likely to give the school record all due weight, its significance needs little discussion here. As the school becomes more natural and life-like, there will be a growing possibility of rating, not only the intellectual powers, but also, approximately at least, such traits as initiative, leadership, suggestibility, and others which have much to do with vocation, happiness, and health.

c. Practical efficiency. — General information, practical common sense and good judgment, and the ability to get things done, count for much. Does the child meet child-size difficulties actively, or shrink from them? When assigned suitable work, does he " do it well, do it cheerfully,

and do it now," or offer excuses in place of achievement? What work-emotions has he? Does he fear his task, worry over it, and become obsessed by it, or show anger or disgust toward all work except his hobby? What leading traits appear? George Tyrrell, reviewing his childhood, thought his whole education should have been based on the instinct of construction.

d. Economic efficiency. — What of the property sense, the instinct of ownership? How does the child get his money, clothing, and other goods? How much does he get, especially by his own efforts? How well does he manage his financial affairs? What becomes of his money? Does he get good value when he expends it? Does he steal? Does he save?

e. Moral behavior. — The actual record of deeds done must appear. We want to know how the child, especially as he advances toward maturity, responds to conventional standards of behavior. Words also have some significance, especially if there is too great loquacity or too great reticence in some direction, such as that of sex. The chief questions are: What, in the stream of transmission, gets control of the final common path? Which instinct-emotion, if any, leads the child astray?

Summarizing the matter of self-adjustment in terms of our rules for maintaining mental health, we want to know whether our child, in all the important fields of play, school work, and the rest, can keep in touch with his childhood world and play his part in it, whether he recognizes and accepts real conditions and actively meets them, and whether he makes an effort to "get along," to practice adaptability.

5. *Mental equipment for self-management.* — Mental status involves, as we have already learned, two chief factors,

intelligence and affective ability. Fernald has given us a contrast of cases that brings the matter out admirably:[1]

> We know two adult, sane personalities which may be contrasted. The one, *A*, is a confidential clerk who has forged his employer's signature at least three times. He passes "adult" intelligence tests with credit — I.Q. = 100 plus. His literary and aesthetic tastes are commendable and his thought mechanisms as discovered by tests and also as discerned in ordinary social and business intercourse are efficient and trustworthy. In conversation he does not justify forgery; but admits it is never justifiable. Yet his love for fast living, fine clothes, automobiles, costly companionship, etc., have occasioned his failure by forgeries, executed most skillfully. His knowing, inventing, associative, and reasoning capacity is not at fault. His weakness is one of behavior and in the field of quality of personality, i.e., character, and is not one of thinking. . . .
>
> The other personality, B, is a farm "chore boy," an imbecile as determined by intelligence tests, — I.Q. = 39, — whose conduct record is good. He milks cows, carries wood and water, etc., under direction, and is in his contracted sphere of activity an economic success. He is well disposed toward his environment and habitually reacts acceptably to stimuli within his comprehension capacity. His weakness is a paucity of knowing, inventing, association, thinking, etc., a failure in the field of capacity or degree of personality, i.e., intelligence, and not one of behavior in the field of quality of personality, i.e., character. The findings of intelligence tests only in these two cases are that *A* is of at least ordinary intelligence while B is an imbecile. The findings of character study only are that A is legally an offender, an economic parasite, and a menace, while B is law abiding, a producer, and no menace. Consideration of both fields of inquiry affords a far broader and more illuminating and therefore true basis of comparison than is available from the consideration of either field alone. In fact, conclusions drawn from investigations in either field to the exclusion of the other are misleading.

a. Intelligence. — In spite of the apparent independence of intelligence and affect pointed out by Fernald, it would seem to be a safe generalization that, other things being equal and normal, a high degree of intelligence means a high degree of self-management. Further, the child of rather low

[1] Guy G. Fernald, "Character *vs.* Intelligence in Personality Studies," *Journal of Abnormal Psychology*, Vol. XV, No. 1.

intelligence, the " dull normal," tends, under the treatment of the average school, to become somewhat anti-social and to develop mentally unsound habits. He needs an especially tactful teacher for his emotions as well as a special curriculum for his intellect.

This points the way to the use of the intelligence test as an instrument in mental hygiene. The employment of such a test may help in the discovery of those children whose difficulties have some cause other than that of low mentality. Irwin and Marks report [1] that the temperamental instability of the neurotic or psychopathic child " comes through in two ways: he is likely (1) to make a scattering test, and (2) to change his total rating on a re-test. By a scattering test is meant that his accurate performances, instead of grouping themselves around the norm for his age, are distributed through a series of years." When a second test was given to the normal group, less than ten per cent of the pupils varied nine points or more from their first score; whereas in the neuropsychiatric group the per cent of pupils showing this degree of variation was nearly forty-seven.

b. Affective ability. — The mental hygienist would be glad to have a test for every trait in a child's personality. Especially would he like to have a test for each primary emotion, and some measure of the power to maintain integration in the face of situations involving confusing difficulties. Practically valuable measures of this kind have been slow to appear. Meanwhile the teacher, while aiming to study and develop the child's whole personality, will focus her attention, very largely, on his instincts and related affects, his fears, angers, elations, etc., and on that greatest of all practical tests: what further affects, such as derived

[1] *Fitting the School to the Child*, p. 187.

emotions, appreciations, and sentiments, the guides to conduct, he is able to *learn* on the basis of the primary emotions.

Can self-management be expected of children? This is somewhat like asking whether arithmetical computation can be expected of children. Both arts are difficult, progress comes with practice, and there is much variation among individuals.

We have developed (in Chapter XVIII) a positive ideal. To determine what progress any child has made in achieving it, we can turn our rules into questions. Does he "understand himself," pass vigorously from dreams to action, and show in his activities a freedom from self-consciousness, a kind of impersonal concentration? Does he refuse to regress, to give a false reason for living on a low plane, and instead of that, does he rise from defeat to pursue an ideal? Does he maintain mental balance by pitting trait against trait? Has he a mental constitution — for example, a principle of open-mindedness — which keeps him free from prejudice? Can he maintain his self-assurance and selfhood even when facing difficulties? Is he trying to achieve an ideal of personality, perhaps "be like" some worthy hero?[1]

In the chapters that follow, we shall hope to find help for those with respect to whom these questions must be answered in the negative.

CLASS EXERCISES

1. Set down some ten or twenty traits found in children, or at least in some children, such as pride in family, fondness for sweets, dislike for school, etc. Assume that each of these traits may be

[1] In *Fitting the School to the Child*, by Irwin and Marks, pages 191, 192, is found a "Psycho-neurotic Questionnaire for Children," which may well be used to supplement the outline presented above.

present in degrees ranging from one to ten. Chart different theoretical child personalities by marking some traits strong, others weak.

Discuss the different behavior to be expected from these children under the same circumstances.

2. Let the class, acting through a committee, perhaps, select some problem child and make a study of his life and present personality, following the suggestions found in this chapter under "Chief sources of information." If specialists are needed, and are available, consult them.

Report and discuss the case, offering suggestions as to what should be done for the best development of the child.

FOR FURTHER STUDY

1. A boy fourteen years old is unable to make progress in book work at school, can not spell four-letter words, nor master the table of three's in arithmetic. He is good in physical culture, has a good general memory, and is apt in manual work. In the country on a vacation, he took two broken bicycles apart and made one good one, though told that it could not be done. Is very shy because he can not get on well at school, and is becoming morose and solitary. He takes care of the electric bells at home, and is "handy man" both there and at school. He wants to be an electrician.

Comment on the case, telling what kind of treatment and education you recommend. (From L. Pierce Clark's "Psychopathic Children, Etc.," published by the National Committee for Mental Hygiene.)

2. Review the figure, "Charting a personality," in Chapter XI, and suggest how it can be used in the study of children.

3. What value would you now attach to a fairly complete record of your school days, showing your outstanding characteristics as your teachers saw them?

4. "To find that a condition is hereditary is not the same as to pronounce it hopeless." Show why.

5. Observe the appearance, gait, gaze, etc., of some of the most healthy-minded children you know, and of some who are less healthy mentally. Can you state any conclusions?

6. What, in general, would you do with a child who ranks high in intelligence but low in character (according to Fernald's description)? With one who stands high in character but low in intelligence? Which is likely to make the better citizen?

7. Make a list of traits which you would regard as significant of possible mental disease later, as aloofness, extreme suggestibility, tantrums, etc.

8. Andrew Carnegie, when a boy, used to get his playmates to gather food for his rabbits and then reward the children by naming the rabbits after them. What trait, apparent in this, facilitated his success in business?

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. Means of studying children. (Forbush.)
2. The Decroly method of child study. (Hamaïde.)
3. Child study and mental health. (Kirkpatrick.)
4. Suggestive running descriptions of children. (The Family-History Book.)
5. Mechanism concerned in trait development. (Morgan.)
6. Common-sense psychoanalysis by teachers. (Morton, Green.)

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CHAPTER XXI

The Mental Hygiene of the Pre-School Child

Exercises. — 1. You are a little girl. You have broken a dish. You are timid, and can not bear a scolding. You put the broken dish behind a barrel in the attic. Later, you are asked whether you have had or seen it. What will you do?

2. You are a small boy without money, but wanting something good to eat. What is the most natural way to satisfy your appetite in the country? In the city?

The teacher and the pre-school child. — If students of child life could have their way, either all children would be pre-school children until they are ten years old, or the school would shape itself more and more into the form of a bio-psychological nursery and play place. The spirit of mental hygiene would make school more like an ideal home, and home more like an ideal school.

Teachers should be vitally interested in the pre-school child. Unless he is properly protected and cared for, their work may be undone before it is begun, and the child's future mortgaged besides. Further, in parent-teacher meetings and elsewhere, the problems of home training for children may be laid before them for consideration.

The essential needs of the child. — We found (in Chapter VI) that the chief needs of the child before birth are *protection*, *nutrition*, *temperature*, and a proper surrounding *medium* in which to grow. It was also stated that if we add to this list one entry, that of *activity*, with a proper

interspersal of periods of *sleep*, we shall have catalogued his post-natal requirements. In connection with these conditions, two laws were emphasized, Tyler's law of growth and Jennings's law of attention. Tyler's law recognizes that for every organ there are three stages of development: (1) a stage of pure growth, (2) a stage of growth-with-exercise, and (3) a stage of approaching maturity, when severe training, increased endurance, and productive work are to be expected. Jennings's law of attention, or of concentration, as we may term it, is that an organism, like a mind, can do well but one thing at a time, and must be allowed to focus its forces on that one thing.

These six conditions and these two laws need the most vigorous emphasis, for in the violation of them lie practically all the evils of the hygiene of childhood, bodily and mental. We fail to protect against disease germs and bad ideas. Carroll thinks that over half the children who die from " summer complaint " are fed to death,[1] and minds are often either starved or stuffed. Tredgold believes that the exposure of a young infant to a very hot sun may sometimes produce cerebral lesion and lead to arrest of development,[2] and cold does seem to be one cause of a " cold," as common sense has long insisted.[3] Mental temperature, too, needs consideration, and so does mental medium in which to grow, and mental activity, and the mental conditions that precede, and accompany, and follow sleep.

We must work with great vigor and sometimes up to the point of apparent rudeness to get the minds of parents off the unessentials — such as pretty clothing and playthings

[1] *Mastery of Nervousness*, p. 32. [2] *Mental Deficiency*, p. 61.

[3] See *Suggestions of Modern Science Concerning Education*, by Jennings and others, pp. 35, 36.

that are elaborate rather then educative — and center their attention on fundamental needs. If we were to make a concrete list of the things parents should provide, and in the order of importance, it might run like this: (1) air, warmth, and sunshine; (2) food and drink; (3) love; (4) play-things and play space; . . . (9999) ornamental clothing that is not to be dirtied in romping play.

The essential nature of the child. — The essential nature of the child, as seen from our present standpoint, we have already discovered; for it is the same as the essential nature of the adult. Man is a bundle of instincts, with their related emotions, and a child is preëminently just that, but lacking both the guiding and the restraining power of well-developed intelligence. Of course he has other traits, but those which require central attention, in the mental hygiene of childhood, are the primary emotions — fear, anger, subjection, elation, etc.

This list of emotions we have already passed in review, and the education of certain of them will at a later point be taken up in some detail. But let us here add the fact, which many parents and teachers still fail to appreciate, that when any organ or faculty is passing through the stage of growth-with-exercise, activity for its own sake is very urgent and highly pleasurable. The endless movements and vocal sounds which young children delight to produce are not necessarily evidence of nervousness. They are the raw material of play, its elements which will later be organized.

The essential home atmosphere. — To be emphasized in this connection also is the "special perceptual inlet" of each instinct. This helps us to understand why children are so suggestible, how they so quickly catch the emotions and consequent behavior of the adults about them, and why

the "spiritual atmosphere" about a child must be kept abundant and pure.[1]

In a group of cases brought before the juvenile court of Hartford, Connecticut, it was found that only 28 per cent of the offenders had average normal home life with adequate parental care and supervision. In the 72 per cent of poor homes, the bulk of abnormalities consisted in divorce, death of one or both parents, desertion, feeble intelligence, insanity, alcoholism, criminality, dishonesty, sexual immorality, cruelty, neglect, poverty, avarice, and ignorance, alone or in combination. Children from good homes were found to be less apt to make their appearance in the juvenile court, and not until after the age of twelve, when they came as the victims of some extra-home influence.

One major question is, Which of the primary emotions is uppermost in the attitude of the parents? If they are habitually fearful, worried, or angry, they must not be surprised to find their children in the same state of mind. There are so many evil factors which may interfere that it is impossible to name them all. Sometimes there is what Southard called a "dominant psychopath," a fuss-maker who by his weakness or temper or self-importance succeeds in settling and subduing the family circle around him as a center. Sometimes the parents disagree, in the presence of the children, on methods of discipline — an unfortunate situation. Probably the most common trouble is parental selfishness in some form.

The essential attitude for parents to maintain is that which has already been described in discussing "our attitude

[1] Sherrington found, in studying the scratch reflex in the dog, that a stimulus far below threshold intensity became effective on its fortieth repetition and produced a reaction. Creatures respond, then, to what they do not even sense.

toward children" (Chapter XIX). The vital tie to be cherished between parent and child as a means to the solution of all problems is good fellowship; and in this, as already indicated (Chapter XV), old-fashioned *kindness* is the chief ingredient leading to such a sympathetic understanding as will induce the child to bring his problems to his parents. But our kindness, as Emerson said of goodness, "must have some edge to it." It is not kindness to a child to humor his whims till we render him paranoid.

Growth as the essential test. Its problems. — The Scripture test is a very practical one for child welfare — to increase in "wisdom and stature." "Stature" refers to bodily development, whose present-day test is weight.[1] "Wisdom" refers largely to emotional development, and the test for this is happiness — that is, happiness of the kind on which more happiness can be built. So far as I can see, there is no hurry, in the early years, about intellectual or scholastic development. It is much better if we apply our stimuli for that somewhat late rather than too early.

What, then, are the problems of growth? They are chiefly the very old ones of *sleep, food, suitable occupation,* and the *forming of affective habits* that make for our familiar aims of self-management and self-adjustment with a gradually enlarging environment — especially of human environment.

Various methods of approach. — In rousing and restraining the child's traits as we must in solving these problems, we can present our stimuli in various ways. Objects are nature's stimuli, and under favorable conditions always

[1] Galton found that keeping energy at high flow was one of the few things that would make a difference even in twins, a difference, not in the "melody" of their lives, but in the "keynote."

rouse a strong impulse to activity. The sight of scissors on the table, of the coffee mother is drinking, of money much desired, may be almost irresistible.

Our stimuli by word and action may take on no less than four forms: (1) suggestion, (2) matter-of-fact statement, (3) reasoning, and (4) brute authority. Suppose a child rather persistently refuses to eat some kind of wholesome food or to go to the dentist. We can make a special point of eating that kind of food ourselves and of mentioning very casually our own trips to the dentist. If stronger measures are necessary, we can state definitely what is to be done — and not argue the matter. Children will often resent this at the time, but, especially in the case of eating certain healthful foods, a habit will be formed for which the child will later be extremely thankful. A person who is " fussy " about his food in later life is to be pitied — a harmful habit has a hold on him which may be too strong for his will to break. The third method is that of reasoning. This requires tact, but children, like adults, can appreciate logic far beyond that which they can originate. Prevision and the entering wedge, introducing but one difficulty at a time, and that a conquerable one, is often successful. We can talk over things in advance and arrange for painless visits to the dentist long before there is any pressing need. The soft, movable chair and the shining, interesting instruments will often fascinate the child. The " dentist's office " will thereafter arouse an agreeable neurogram. We can use similar tact in dealing with all matters which, though molehills to us, may to a child's powers be as mountains in the scaling. Brute authority is likely to defeat its purpose — the child becomes frightened or stubborn. Absolute and peremptory commands not only suggest resistance, but

there also ensues immediately a certain responsibility for their enforcement, and that may prove trying and harmful for both sides.

Fundamental problems: Sleep. — The child who has learned to go to sleep and sleep soundly has acquired a fund of health capital which will yield him a constant income. Fatigue is nature's great sleep producer. At favorable times, when this is present, parents should try to build into the sleep neurogram the effects of other stimuli such as sleep talk, darkness, silence, a clean bed, and cool, fresh air, which can be used to induce sleep at nap-time when fatigue alone may not be sufficient. As previously stated (in Chapter X), any monotonous stimulus, such as the tick of a clock, is likely to help. Whether such stimuli as the stroking of the skin, or a lullaby, or a softly told story shall be used, the mother herself must decide. But if she begins their use, she must not be surprised if it has to be continued — which means that the child will demand companionship when going to sleep.

Care should of course be taken to keep out of the sleep neurogram the effects of all disturbing stimuli. The child who has learned to associate frightful things with the dark, or with being left alone, will naturally cry out at it, or perhaps lie awake in fear. Gradual reëducation is needed, perhaps the withdrawing of the light, or the mother's presence, first to a point just outside the door, and then farther and farther away, until only a flitting shadow or a distant song remains, and finally, after a number of evenings, only silence and the dark.

Night terrors. — Sound sleep and plenty of it is even more important for children than for adults. Insomnia among children is rare, and indicates the need of careful examination.

The night terrors of childhood correspond to the nightmares of grown people. These extreme fears occur most commonly from the third to the seventh year and usually disappear after a few attacks, but may be followed by somnambulism. Fright may occur on going to sleep or after, with hard breathing, sweating, trembling, and outcry, such as "I won't do it again." The child may attempt to hide in bed or out, may not recognize his parents while the dream is on, and usually has no remembrance, in the morning, of what has happened.

The cause may be bodily, a matter of pathological condition, or due to bad hygiene. Manaceine remarks that somnambulism occurs most frequently in growing children, subjects who are in need of muscular exercise, asks whether it is not caused by motor dreams originating from muscles too little exercised during waking hours, and points to cases of cure by hard muscular work. But apparently there are also various more purely mental causes, such as fright by an unwise parent or teacher; unsuitable books; frightful pictures, including motion pictures; improper ghost, Indian, or detective stories; fears inspired by religious teaching; worry over school affairs, or over family troubles too freely aired before the child.

Somnambulism may be cured by authoritative suggestion. Tuke tells of a schoolmaster in a boarding school who never failed to work a cure. His method was to call the pupil aside just before bedtime and say to him, "I find you were out of bed and making a disturbance in your room last night." "Sir," is the reply, "I was asleep; I know nothing about it." The master continues: "I will say nothing about it on this occasion, but such a thing must not occur again." "But, sir, I could not help it; I was asleep." "Well," the master

finishes, " you hear what I say. I should not advise you to let it occur again." The boy feels that he has been hardly dealt with, but the suggestion carries successfully over into sleep. Perhaps the subconscious is as cowardly as Sidis has said it is.

The way to deal with disturbing fears is to remove them by sympathetic methods, gaining the child's confidence and explaining them away. Probably children do not realize so clearly as adults the difference between that which is purely subjective — brain-born — and those experiences which stand for objective reality. Let us laugh, not at the child, but with him, at the funny things that come into the minds of all of us to scare us.

Enuresis. — At home, *enuresis* — incontinence of urine — commonly takes the form of bed wetting. But the inability to retain urine normally may cause a child to hate to go to school, or while there, to remain apart from other children and appear peculiar because he fears ridicule or other comment upon his peculiarity.

Many such children are thought to have small bladders, and some may be too hasty in urination to empty the bladder thoroughly. As this organ enlarges with age and inhibition increases, the difficulty may disappear. Frequently, however, enuresis is one of a syndrome of symptoms indicating a mildly pathological nervous condition or some unusual nervous stimulus, such as fatigue, eyestrain, digestive trouble, adenoids, or bad teeth. It may also accompany other faults which are apparently unrelated to it, such as petty thieving. And when one disappears, the other is likely to do so. The bed wetter is typically a nervous child, often rundown. The feebly-intelligenced especially suffer from enuresis, and because of their lack of ability

to coöperate are difficult to cure. Suggestion may act as a cause.[1]

> I may refer to a case recorded by Ringier of a young girl who was told by her companions that she would wet the bed because she had plucked the meadow crowfoot (called *pisse-in-lit* in Switzerland) and who really became subject to nocturnal incontinence of urine in consequence.

Often the bed wetting is accompanied by a dream, as of running water. But the dream probably arises from stimulation of the bladder.

The cure consists first of all, of course, in seeing that the child is in good bodily condition, with approved diet, sound rest, and hygienic posture. Rest and quiet must be secured even if it involves cessation of study or removal from school. Those cases are most quickly cured where the child's coöperation can be gained. Reasonable retention of the urine during the day should be encouraged. The bladder should be emptied at bedtime, and the child taught to sleep otherwise than on the back. In addition, he may be waked at definite hours for micturition, later skipping some of the waking periods through weeks or months of training. Punishment is usually unwise, but rewards may be given for keeping the necessary regulations, and the child's attention called to the disadvantages of bed wetting and the joys of freedom from it.

Suggestions to children during sleep. — Worcester recommends the use of suggestion during sleep:

> There is a very easy and rational way by which many childish faults and nervous weaknesses can be removed — and that is by making good suggestions to our children while they are in a state of natural sleep. This may strike some persons with surprise, and it raises interesting questions as to the relations of natural and induced sleep, but I have employed this method so many times with success that I feel justified in mentioning it. By this

[1] Marie de Manaceine — *Sleep*, p. 38.

means I have removed childish fears, corrected habits of masturbation, bed-wetting, biting the nails, and sleep-walking. I have checked nocturnal emissions and nervous twitchings, anger, violence, a disposition to lie, and I have improved speech in two stammering children. My method is to address the sleeping child in a low and gentle tone, telling it that I am about to speak to it and that it will hear me, but that my words will not disturb it nor will it awake. Then I give the necessary suggestions in simple words, repeating them in different language several times. The child rarely awakens and if it does it usually drops to sleep again immediately. I have had the best results with children I know well and for this reason I think it best for the mother or some other loved and trusted person to make the suggestion when this is possible. The difficulty in employing this method with grown persons is that they usually awake when spoken to.[1]

Fundamental problems: food.[2] — As to the child's food, we can insert here a few suggestions only. But it is profitable to remind all concerned with children's eating, whether at home or school, that the laws of learning are never suspended, and that our little folks are constantly learning to eat either hygienically or otherwise.

Often, without at all realizing it, parents make a strong appeal to a child to form a bad habit. Perhaps certain members of the family are too fussy and particular about their food, and the child falls in with their suggestions until he is as bad as they. Perhaps the parent expresses doubt as to whether the child will eat, goes to much useless trouble to humor his whims by providing other food, talks about his eating habits to other people in his presence, frets or gets angry about his eating, and in other ways makes him, at every mealtime, " the star actor in a little drama " — an appeal to his selfish elation.

Sometimes a child forms a vomiting habit. The angle

[1] *Religion and Medicine*, p. 69.

[2] Some of the suggestions under this heading are taken from *Habit Training for Children* — a pamphlet issued by the National Committee for Mental Hygiene.

between stomach and esophagus is much more nearly a straight angle in children than in adults, and the vomiting center in the brain is more easily stimulated. Dr. Thom gives an instance of a six-year-old girl who was vomiting every morning and occasionally during the day. She was found to be imitating her mother, who, because of pregnancy, had herself been vomiting for months, and frequently in the presence of the child. Cleanliness (much needed in that home) and common sense cured the case.[1]

Fundamental problems: occupation. — Activity there must be, as we have seen, activity both for growing muscles and for growing emotions. If only we could get all parents to realize this, the campaign for improved mental hygiene would be half over. A house may be full of fine furniture and of other articles interesting to adults and still be, to a child, more vacuous and profitless than the shell of a hatched egg.

If we want suggestions as to what toys, furnishings, etc., are desirable, let us review our primary emotions, especially those which are to be encouraged and developed. Tender feeling suggests a doll, a little woolly dog, or a Teddy Bear; curiosity, singing tops, and all of nature's puzzles; elation, a bit of mechanism that can be worked and managed; social feeling, playmates, even if they are only parents; appetite, gingerbread men; ownership, any dear thing, from a button to a barn — for economic socialism is a late development; creativeness, parts of some kind that can be put together; and amusement, all sorts of grotesque and funny things.

Fundamental problems: a sample emotion. — Emotions must be guided. A little boy is having a tantrum. "Please be good," pleads the mother, speaking lovingly, timidly,

[1] From a pamphlet, *Habit Clinics for Children of the Pre-School Age*, by Douglas A. Thom.

and with an appealing smile. The little one, responding to this suggestion of superior power on his part, bawls the louder, kicking out and striking hard. "If you will be a good little boy, I will give you some candy," urges the mother. Out comes a box of sweets, and the tantrum subsides — for a time. Here is illustrated one of the surest ways to grow a selfish soul, one that will reach its tentacles around everything it wants. The mother is rewarding wilfulness, and the bribe demanded by the child is likely to grow ever larger.[1]

Compare this case with another.[2] A little girl of six was vexed by a trifle, and began to cry. She was told in a matter-of-fact way that her noise was disturbing the rest of the family, and that she must either stop crying or go upstairs. This brought forth more and louder bawls. A watch was taken out, and the little one was given two minutes to decide which she would do. At the end of that time she went crying upstairs. But within ten minutes she had conquered herself and came back, "sweet and gracious as if nothing had happened."

Here we see, not merely an attempt to "reason" with a child when he is undergoing an emotion and so unable to reason, but something better, namely, reason embodied in action.

CLASS EXERCISE

Let the class represent a parent-teacher meeting. The instructor, acting in place of a parent, will present practical questions and problems dealing especially with the education of the

[1] Tantrums accompanied by rigidity of body, marked changes in breathing and circulation, etc., should be referred to a physician who has, in addition to medical knowledge, a knowledge of mental hygiene.

[2] Elizabeth Harrison — *Misunderstood Children*, p. 7.

primary emotions of the child in the home. The students, working individually, or in groups, or as a single group, may offer answers and solutions.

FOR FURTHER STUDY

1. Suicides are more than twice as frequent among husbands without children as with children, more than three times as frequent among wives without children as with children, and nearly twice as frequent among widows without children as with children. What conclusion do you draw?

2. After the death of a little girl who was very fond of tomatoes, her family never ate them. In another family, after the death of a daughter who had played a great deal on the piano, the instrument was closed and never again opened. What is the effect of such a family atmosphere on other children? What would you suggest doing in similar situations?

3. A pair of twins who were not allowed to read or hear fairy stories, and whose lives were stiffly and mechanically regulated, suddenly assumed leadership of a group of children and initiated a game of kidnapping, chloroforming, robbing, and bloody murder. Have you any comment on the case?

4. The sight centers of a child's brain continue to grow by exercise up to the age of about six, at least. Do you think this has anything to do with the vividness of children's dreams?

5. A child performs some act prompted by curiosity, which rouses the anger of his elders and draws down punishment upon him. Later, he hears these elders describing his prank before company, whereupon all laugh. What is likely to be the effect on the child?

6. Dr. Thom, in his habit clinic, depended greatly on the children's traits of plasticity, suggestibility, imitativeness, and love of approbation. Illustrate the use of these.

7. A two-year-old girl is often heard saying, "I am just as happy as I can be." What do you think as to the wisdom of starting such slogans among children, taking care not to become sentimental about them?

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. Pre-parental education. (Gesell.)
2. Care of the young child's health. (Holt.)
3. Habit training and habit clinics for children. (Pamphlets issued by the National Committee for Mental Hygiene.)
4. The new psychology and the parent. (Miller.)
5. Mental hygiene service for pre-school children. (Gesell.)

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CHAPTER XXII

School and Mental Health

Exercise. — Assume that a child is placed in your care, with unlimited means for his complete education. Tell what measures you would take (1) to find out his most significant traits and (2) to develop those traits, educate him according to his nature for his fittest place in society, and at the same time keep him mentally healthy. You will probably answer the question best if you assume that there is no such thing as a school in existence.

The crisis of entering school. — Entering school as a child may be a more critical migration, with its shift of environment and activity, than entering college as an adolescent. Parents and teachers should inquire very carefully whether the local school is meeting the fundamental needs of childhood — protection, nutrition (in so far as this depends on the school), proper temperature, the right kind of growth medium, and a fit program of activity and rest. And they should not forget mental protection, mental "nutrition" and "temperature," the right kind of mental atmosphere, and a fit program of mental activity and relaxation.

It has been found that entrance to school is frequently marked by lowered respiration and more frequent colds, a decrease in appetite and in the number of red corpuscles, and a reduced resistance to disease. Often — and perhaps we can still say, usually — the hitherto active child is compelled to repress much of his muscle hunger, and so undergo the strain of learning a mass of static lessons which he is not

prepared for. This quick rush to books for the purpose of saving time, wastes it bitterly. Let development come first through growth, and achievement will follow almost as an incidental, the learner mastering with ease what might previously have proved to be beyond his powers. Young pupils should pass the tests of growth and happiness whether they pass any other school tests or not.

Who comes to school? — Before we can place a child in school and outline a program for him, we must know who and what he is. As previously stated, some account of his inheritance and his developmental history should come to school with him — or rather, before him. Further, he should have received sundry manifestations that a kind-hearted teacher is waiting to receive him. The school should cherish its cradle roll, and parent, teacher, and child should have met before school days begin.

A complete examination is needed in order that we may know who it is that is coming to school — that is, what kind of personality the entering child has.[1] Perhaps some will be found who ought not to enter. Not only do we want to know the bodily condition of him who comes, but also his mental traits, what kind of occupation he shies at and what he is fond of, whether he is fearful, irritable, nervous, depressed, belligerent, and so on. Only through such knowledge can we guide him into the proper group, or groups, and plan his work — especially his work in character formation — so that it will fit him.

Who receives the children? — A teacher is primarily an *artist*, an artist in the discovery and development of a child's

[1] For further discussion see *A Health Examination at School Entrance*, a pamphlet by William H. Burnham, distributed by the Massachusetts Society for Mental Hygiene, Boston.

most significant traits. But teachers, like other artists, are first born and then made. If we picked up a thousand young people at random and tried to teach them to sing or paint, many of them would be failures or dabblers. That our colleges and training schools are turning many failures and dabblers into the teaching profession there is no doubt. We are seriously in need of some better way of attracting and choosing those who were born to enter this guild of artists.

But we are not training them with full wisdom when we do get them. We are constantly stressing the curriculum, academic scholarship, and paper work. These things are by no means to be despised; but the center drive of a curriculum for teachers ought to be on child study and guidance, all else being accessory. Further, the child study should, if possible, consist largely in personal contact with children, with their homes and surroundings, and in following, step by step, with an understanding of reasons for the steps, the course of the expert as he handles actual cases. What the teacher-artist aims to develop is not merely a lesson, by a given method, and followed by a standard test, but the child's whole personality considered as a syndrome of traits, developed always with reference to his particular future, and to the " world test " of actual living.

School aims. — *Health first* should be the primary motto of the school. Our aims ought to be (1) good bodily condition, (2) education in feeling, the development of the affects, and (3) education in ideas, the development of the intelligects. Of course all these aims can be in process of achievement at once.

Education is very largely a matter of learning to feel the right feelings. Says Kilpatrick:

> Especially are the children responding emotionally (that is with like or dislike or valuing) to each thing that comes up, so that each child is building (and fastening) dispositions or attitudes out of these likes and dislikes, fastening them in himself toward teacher, school, subjects being studied, going to college, our country, being honest, etc., etc.[1]

The mental test of most fundamental nature is this: What affects can this child learn, and how quickly, how well, how lastingly? We do not have an ordered course of study or practice for the affects, as we do for the development of arithmetical ability, and for the present at least must make such a course for each child as he develops. The matter is of the very highest importance, however, for all that we know indicates that each ability, including what we may call emotional ability, tends to remain in a childish state unless developed by right exercise. How many adults, in certain of their emotional responses, are still children!

In the absence of such an affective curriculum, what can we do? We can take pains to stimulate all essential emotions appropriately, and we can try to give each child just the right amount to bear, to respond to — a difficult matter when the number of pupils is large. We can grade or group the children, not merely according to age, or even intelligence, but, where the situation so dictates, according to affects, "character," and especially the primary emotions. This does not mean that all the timid shall be placed in one group, all the hot-tempered in another, and so on; but that the timid child shall learn courage by being placed with the courageous, and the hot-tempered shall be placed with the placid and from them learn self-control. We can also, in our effort toward the education of the feelings, adopt some of the freer methods of procedure, games, discussions, group

[1] William Heard Kilpatrick, *Foundations of Method*, p. 133.

work, projects — whose situations provide *practice* for the most desirable affects, taking care always to keep each child integrated about the chief purpose which nature seems to be concentrating on in him at any given time. We learn to feel, as we learn everything else, by carefully graded practice.

It is not always the teacher that " gets the most out of " the pupils by the hammer-and-tongs method who gets the most education into them. Let us measure our schools by their production of whole-minded, well-poised pupils, and in the end, by their production of stable, level-headed men and women — or even by national health. Who would now imitate the school system of old Prussia?

Pupil attitudes. — By an " attitude " is meant a way of feeling, an affective habit, such as one's attitude toward the other sex, or toward socialism. Children are likely to feel keenly, and so to practice constantly the forming of attitudes which, unless changed by later experience, may last indefinitely. Perhaps your way of regarding algebra, or the British, or the city which used to overawe you because it was so much larger than your home town, has not changed much since you formed the habitual feeling, years ago.

If a child does not know the teacher, his first feeling is likely to be that which influences us all to ask unconsciously when meeting a stranger, " Friend or enemy? " The teacher will convince him, perhaps more by look and act than by direct verbal avowal, that she is with him in spirit and means well by him. His behavior while working with his teacher may be illustrated by Kempf's diagram showing the reactions of a monkey to a prune, to a stick, and to a prune on a stick (Figure 14). Although a child is not a monkey and the teacher will, we trust, be neither a " prune " nor a " stick," yet, as Kempf remarks, the diagram may

well be used to show the reactions of a child working under various conditions which arouse his likes, or dislikes, or conflicting like and dislike.

Pupil attitudes are formed largely during the processes of discipline and instruction, which we shall next consider.

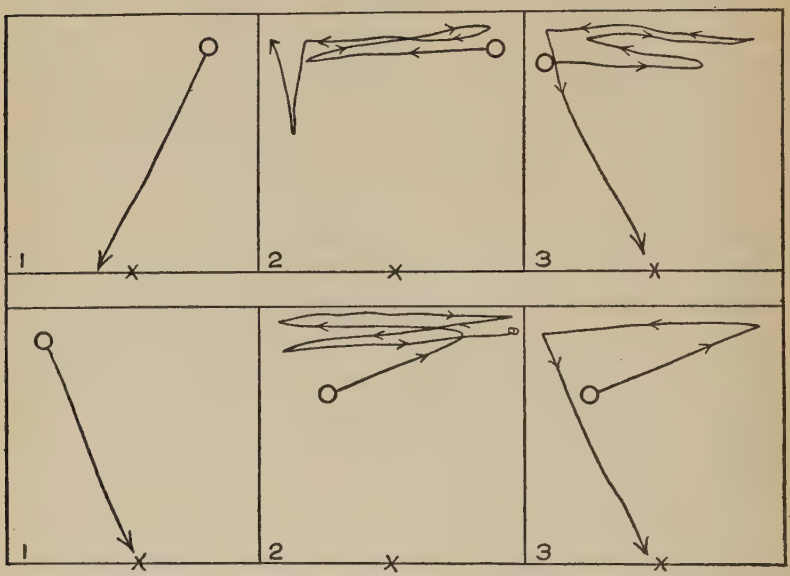

Fig. 14. — Showing the reactions of a monkey to a prune (1), to a stick (2), and to a prune on a stick (3). "The same diagram may well be used to suggest the reactions of a child or adult doing pleasing work under a parent, teacher, or boss who is liked (1); or doing work that is disliked under conditions that cause anxiety (2); or doing work that is liked under conditions that cause anxiety (3)." (From Edward J. Kempf's *The Autonomic Functions and the Personality*, p. 70.)

Discipline. — We have found (in Chapter IX) that migration, with its upsetting conditions, is one cause of mental illness. The child who first passes from home to school may also be upset, and retreat from his new environment with tears. The induction into a new régime of living should be

made gradually, and can most happily be accomplished through some such medium as that homelike school, the kindergarten.

But even a child who has become a little veteran in school experience may continue to bring with him from home or street such a structure — or tangle — of ideas, feelings, and habits as is bound to result in conflict with school ways, either outwardly in conduct or inwardly in " mental conflict," or both. If only we could see a child's mind as we can his bodily figure, both he and we should have less trouble. Right here our child study should help us.

We should not aim, then, at perfection at a single jump. The heaven of a thoroughly socialized, coöperative school is not reached at a single bound. That school is " well disciplined " which is behaving better, that is, achieving its aims better, than it did earlier. To attempt through punishment to enforce at once an adult standard is to pave the way for so many punishments that the child will regard himself as persecuted. The teacher is likely to take character and good behavior for granted, and to proceed at once with the teaching of ideas. She ought rather to take it for granted that the child will in due time gather ideas enough to put him through life very well if only she can first educate his feelings. Discipline is not merely for the sake of keeping order as an end in itself, but for the sake of the pupil's growth in self-management and self-adjustment. There should always be plenty of occupation, and peaceful, coöperative absorption in the activity of the hour should be the ideal; but personal relations are more important than book work.

It should be our aim as teachers to have our subject matter so well in hand that we can give chief attention to personal relations.

We can not here study all the special causes of misbehavior; but we can suggest the sensible, psychological view that a child's behavior in school is his response to the stimuli, the situations there, and the chief of these we can list: (1) *The condition of the room.* It takes years, in some cases, to learn that a thermometer, if we will only follow its pointings, is a great aid to good order and mental health. (2) *The bodily or mental condition of the child himself.* Such are indigestion, or a headache, or a homeborn prejudice against the teacher. (3) *The other pupils.* Their inciting or inhibiting influence is probably too well known to need comment. (4) *The teacher.* We have already called attention to the teacher's attitude, and her responsibility for maintaining, herself, the feeling, the affective atmosphere which she wishes to prevail. The radiating influence of a good teacher is probably the greatest reforming force in the world. (5) *The school régime.* Such are regulations, often imposed upon the teacher as well as upon the pupils, and sometimes felt as an intolerable burden.

In any case, let us learn what affect lies back of the behavior, and attempt to control it, according to the methods already studied (in Chapter XII), by changing stimulus, bond, or response, or some combination of these.

Instruction. — If there is any place where the old motto, "Sweetness and light," applies preëminently, it is in the matter of instruction. The first essential, if we are to secure either of these qualities, is the nice adjustment of the work to the pupil. Failure often saps the courage of a child, or even of an adult, and develops a sense of inferiority which inhibits further effort as useless. Parents who insist on having a child graded too high must expect mental health too low. The time will come when the well-regulated school

will eliminate practically all except hygienic failures, that is, cases in which a child is permitted to attempt a task too hard for him and fail in it in order to reduce his excessive self-confidence or to stimulate him to greater activity; for the school will know the pupil's intelligects well enough to determine whether he *can* do a proposed task, and it will know his affects well enough to determine whether he *will* do it. This finer adjustment of task and ability, already found in some of our schools for the "feeble-minded" (feebly intelligenced?), makes the pupil's career a succession of conquests, throws off his inhibitors, and gives him the constant elation, self-assurance, and courage of success. To appreciate this, let us study the effect on ourselves of our own failures and successes, past and present.

A second matter of great importance is that of attitude, both of the teacher and of the pupil. A pupil may fail in a task just because he has been led to believe that he can not perform it, or succeed because of his self-assurance in attacking it. Even very bright pupils, because of fear of the work or fear of the teacher or examiner, or some other inhibiting emotion, may fail to pass a test, or may take on a kind of schoolroom stupidity that lasts for months. Athletics is not the only interest that can profit by a "pep" meeting. The teacher is a coach who, under ideal conditions, would have the right to make her little players confident that they could win every coming game. *Tact* should be one of the teacher's watchwords — and tact means just a sympathetic appreciation of the way the pupil feels, and an understanding of what stimuli to apply to rouse in him desired feelings. Pupils appreciate and profit by the kindly, humorous, quizzical, bantering teacher who nevertheless will not humiliate his pupil unnecessarily, but who creates in the group a

dignified yet permeating spirit of " We're-all-good-fellows-together."

Clearness is the next virtue to aim for. Having got the " sweetness," let us provide the " light." This necessitates a definite conception of the purpose of the lesson or the course, and of the big things necessary to achieve it. But the widespread effort devoted to the simplifying of the elementary curriculum is excellent evidence that we are improving in this respect. With the elimination of useless subject matter we may hope to eliminate much exhausting, depressing haste and worry. We are finding out, too, that actions teach faster than words; that a pupil can learn to do by doing, better than he can learn to do by telling.

The school régime. — The big question with regard to a school plan or school system is this: Is it human? Does it endeavor to look inside a child's mind and treat him sympathetically, even though severely at times, in the effort to give him kindly personal service, or does it work wholly from without the child's personality and treat him as one more unit of material for the educational machine? Consider, for example, so simple a matter as the composing, integrating, self-assuring effect of writing at a moderate rate of speed with well-controlled characters, and the discomposing, scattering, harrying result of hurried writing. In the too mechanically " efficient " school, perhaps organized wholly from the office and cutting its time into many fragments, haste and tension may be forced on teachers and pupils. Yet we find good business men who do business at so leisurely a rate that they are thought by superficial observers to be loiterers. All children should be allowed to work slowly some of the time, and some children nearly all the time. In questioning, for example, as Burnham has pointed

out, the teacher needs to remember that the association reaction time of children is much longer than that of adults, and that quick answers, when forced from them, contain practically no thought.

As happiness in any country does not depend on the form of government merely, but rather on the spirit that permeates the whole, so mental hygiene in a school is not necessarily bound up with any one form of organization. One decade feels the necessity for a great deal of socializing, but the next may see the need for emphasizing a sound individualism. After all, life is not a perpetual committee. The large, essential social purpose was caught by many in the old-fashioned school, and our Eliots and Wilsons are strongly individualized. The question as to whether the seats are screwed fast to the floor, while worth considering, is not nearly so important as the personal prejudices and pedagogical habits to which superintendents and teachers are screwed fast. Let us remember Mark Hopkins and the log.

We need, it is true, some form of grading or grouping or administering subject matter whereby the individual pupil is permitted to take up and pursue each major branch of learning just when his ability for it is ripening, but is not forced to take it up before that time; so that he can, if his good requires it, forge ahead of the average, that is, his "grade," in some branches, and fall behind it in others, or even withdraw wholly from a given subject for a period. He also needs, in due season, to be able to elect his special field of work. But aside from this, among all the "plans" and "methods," each pronounced by its advocates to be better than all others, which come and go with the revolving years, the very best plan is to put into each schoolroom a clear-headed, well-trained, warm-hearted teacher who is in

love with her work and still more in love with her pupil's future, and then to give her freedom to do what she knows to be best.

Guidance in solving the life problems. — That we must study and develop each child as an individual is trite in the saying, but not yet trite in the doing. We should reach him, so far as possible, in the pre-school stage, and study him as he enters; apply to him constantly the fundamental tests of growth and happiness; assign him a special folder in our files and record what major discoveries his successive teachers make with regard to his traits; let him grow as rapidly and as slowly in various directions as nature seems to wish that he should; guide him in the making of his electives in the junior high school and beyond; and thus help him at length to recognize and solve for himself his life problems.

These life problems are *health, work* — including the making of a living and the finding or making of a suitable habitat — *recreation, friendships and other social relations, marriage and family life, citizenship, and the establishing of a philosophy of life.* Linnæus began the study of medicine, but one of his teachers discovered his strong botanizing trait, which had showed itself even in early boyhood, and started him in the direction of becoming the greatest botanist of his age. Every one of the life problems will need a different and personal solution for every candidate. On his way of meeting them, one after another, depends not only his present mental health but that of all his future days. The school is just beginning to realize how much it can help in this direction, both incidentally and by direct methods.

Some interferences. — We have suggested an ideal training for children. What keeps us from realizing it?

We have, it seems, too many children or too little money. At any rate, there are too few really good teachers for the work to be done. This means that children must be taught in large groups. Critics and the public must not blame us for " mass methods " until they give us masses of money to correct the evil. In many parts, there are still wrong ideals as to what education really is, with a lack of knowledge as to the prime importance of health. Teachers, as we have seen, are not sufficiently trained in child study.

Grading and grouping are imperfectly adjusted. Teachers, even when well prepared, are not always left free, but are hampered by officials and official directions. Finally, superintendents, supervisors, and principals largely control the educational policies of a school system, and although they may have been trained at the universities to be specialists in supervision or in some branch of the curriculum, there are few of them who have been trained as specialists in child life.

CLASS EXERCISE

Review the instincts and their related primary emotions. Check those which, so far as possible, should be left unstimulated by the school, and which, if they appear, need to be educated out, or redirected. Examples are fear (as embarrassment in the presence of one's classmates, interfering with recitation), jealousy, and ordinary anger.

Also, since our aim is not merely negative, but looks to positive character development, make a list of the emotions which we should try to develop as soon as the children are ready to experience them. Describe from your own experience, or plan afresh, such school conditions, exercises, methods, projects, etc., as will exercise these desirable affects. For example, what effect does it have on the members of a class to get them to talk freely and informally, as you, perhaps, are doing in working out this present exercise?

FOR FURTHER STUDY

1. Do you think it would be ideal to have each pupil, from kindergarten through high school, given a complete health examination each year? What likelihood is there that he would form the habit and continue to take an annual examination after graduation?

2. What do you think of the plan of stimulating and coaching children with the idea of bringing them all "up to grade" in all branches? Why?

3. When you are attending school or college, do you care as to the kind of associates who are in your working group? If so, how would you like to choose your associates? Do you think the feelings of children are similar to yours in this matter?

4. Do you wish that your own educational treatment in elementary or high school had been different in any way? If so, in what way?

5. Some Indians were once invited to send certain of their young men to a college for whites. They refused, saying that their braves who returned from such colleges were good for nothing, being unable to take a deer, build a cabin, kill an enemy, or even speak their own language. How does this show the relation of education to life after school?

6. How do you explain the fact that some criminals are highly intelligent? Is a child deserving of special educational effort merely because he has high intelligence? Because of high character?

7. Mention some points in which the pupil is likely to imitate his teacher sympathetically, such as posture, tone of voice, affective attitude, etc. What importance attaches to this?

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. The effect on the child of entrance to school. (Terman, Jennings, and others.)

2. School experiences (success and failure, disciplinary experiences, etc.) as related to mental health. (Burnham.)

3. Nervous hygiene of childhood. (Forel.)

4. General hygiene of the school child. (Terman.)

5. Program for mental hygiene in the public schools. (For this and other related topics, see pamphlets distributed by the National Committee for Mental Hygiene.)

6. "The wider problem of method." (Kilpatrick.)

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CHAPTER XXIII

Fear, and the Teaching of Courage

Exercises. — 1. Write a paragraph or two on "Fear among the Lower Animals." How do they act when afraid? What value has fear for these animals under primitive conditions? Has it the same value for man?

2. Review (in Chapter XII) the various methods of dealing with stimulus, bond, and response when we wish to control either an affect or behavior.

Our present purpose. — As before stated (in Chapter I), the aim in juvenile mental hygiene is to find how to discover and develop the good traits of a child's nature, and how to educate out the bad ones.

A complete study of the mental hygiene of childhood would show us how to deal with every trait, and how to integrate and balance all traits in the maturing personality, in every sort of environment. No such handbook is likely to appear. What we can do is to center our attention briefly on a few fundamental traits already listed, especially the primary emotions, and on the ways in which they are likely to bolster or warp the growing soul.

In this chapter, we shall begin such a program, centering our attention on fear and the teaching of courage. But first, we shall consider somewhat the psychology of dealing with trait development.

Hints of general method. — There are a few general principles which it will pay us to keep in mind as we study all manifestations of character, and especially those which we

may wish to change. We can state them in the form of questions.

1. What trait is here expressing itself? What is the cause of this behavior? We have already found that, when we study the conduct of children, things are not necessarily what they seem. The child who steals may not be a thief, but may want excitement, adventure, or the wherewithal to play his pet game, or means of giving his mother or teacher a present, as others do. He who fights may not be pugnacious, but his code of honor may not permit him to do less than attack one who has called him an insulting name. We must find what is the real trait that lies back of the conduct.

2. How shall we give the active trait legitimate satisfaction? If a child steals in order to play ball, we should find some way to give him the game without stealing. If he leaves school to see the circus, some one should invent a means whereby school children may see circuses. Why suppress this strong desire for nature study?

3. If the trait is evil, how can it be changed or uprooted? The instincts, normally inherited, are neither good nor bad, but are simply primitive forces which presumably can be educated in either direction. The only thoroughly bad inherited mental traits are those which can yield practically no social benefit, but which tend toward mental illness, such as an epileptic diathesis or a strong liking for alcohol.

General method of developing or discouraging a trait. — To reduce a bad trait means to make its phreno-mental currents relatively weaker in the stream of transmission. We can do this by actually weakening, or choking off in some way, the nervous currents from the trait tract in question, or by so strengthening the other portions of the stream of

transmission as to overpower the undesirable and prevent its reaching the final common path of action.

The general method of changing the S–B–R (stimulus-bond-response) series in any case, we have already studied. But a few further observations may give additional light.

The ideal, presumably, would be to keep young children in a peaceful, beautiful, harmonious, morally pure environment, designed to stir up no experience and call out no behavior which we would not desire to strengthen and establish. The struggle for adjustment with an imperfect world should come later. Even if, in some cases, such a condition can be only an ideal, let us nevertheless continue to cherish it.

Since a large part of the science and art of character guidance consists in pitting trait against trait so as to render an objectionable characteristic relatively weak by stimulating other traits into greater activity, we must always ask, with regard to any particular flesh-and-blood child, What desirable traits are found in such strength that we can stimulate them and so submerge the undesirable? It is not always possible to appeal to the ethically loftiest incentive. One of the means most commonly used by those who work much with children is that of personal loyalty. " Do this for me," or, " If you do that bad thing you will bring disgrace on me " — such is the attitude. The stronger the leader and the more attached are the followers, the more effective is the appeal. If personal ties are weak, we must find or make some that are strong.

It should be emphatically remembered that much mischief results from setting up lofty and overrefined adult standards as norms by which to judge children, and still more if we attempt to force the growing soul to fit these somewhat fossilized molds. The experienced shepherd of children knows

that many apparently bad traits will die with the passing years, disappearing as if they were so many mental growing pains. The typical boy of fourteen or fifteen is likely to display at that period the worst character he will ever exhibit.[1] He ripens naturally with age.

This passing or changing of traits with the on-rolling years can often be observed in the case of the fears, to the study of which we shall now proceed.

What is fear? — Fear is said by some to be the most disturbing affect we ever experience. As the word is commonly used, it may refer either to an emotion or a sentiment. An emotion is blind, unreasoning, naïve, impulsive, unreflective, such as passionate anger. A sentiment, as its name (from *sentir*, to think) indicates, is presumably tinctured with thought. A child who screams with fear at some such object as a toad and can not be reassured is undergoing an emotion. An individual who puts iodine on the scratch made by a rusty tack, saying "I am afraid of infection," probably has a sensible, enlightened kind of fear, a sentiment which gives correct guidance to conduct. Fear, then, may be either emotional or rational. From this standpoint we can readily understand Sidis's insistence [2] that a large part of a child's education consists in teaching what, and what not, to fear.

We shall deal here with the emotion and with undesirable fear sentiments.

The physiology of fear. — A fear stimulus is a mighty interrupter, as nature no doubt intended it should be, putting an end to whatever ordinary activity the fearing animal may be engaged in, and leading either to total passivity, as in

[1] See G. Stanley Hall's *Youth*, Chapter VII.

[2] In *Philistine and Genius*.

skulking and "playing possum," or to the most energetic action, as in fleeing or desperate fighting. McDougall [1] ascribes the sudden stopping of heart-beat and breath, with paralysis of movement, when they occur, to the impulse to concealment; and the more common increased respiration and pulse, with frantic bodily efforts, to the impulse to flight. It is no wonder, then, that we forget our speech if we fear the audience, or that students fail to recite if they feel social confusion in the presence of their classmates. The lower two-thirds of the autonomic system, presiding over sex activities, digestion, etc., are switched off, and the physiological resources are integrated for the essential action, originally that of fight or flight.

But as we have seen, emotion not followed by action is a bodily evil. The amount of adrenalin and of glycogen thrown into the circulation is increased, the thyroid stimulates the brain, and the whole kinetic system is prepared for extreme strain. Fear without action may be worse than a physical struggle if the latter is not accompanied by serious injury. When this unhygienic condition is maintained, the way is paved for possible arteriosclerosis, cardiovascular disease, diabetes, nephritis, degeneration of the heart, and even a change in the character of the saliva favorable to pyorrhea and the decay of the teeth. A strong emotion, fear especially, may cause the hair to turn gray or fall out. Brain cells, under the same influence, are reduced in size and chromatic substance.[2]

Some samples of fear. — Darwin, studying his infant son, records that

[1] *Introduction to Social Psychology*, p. 53.

[2] Much of the nervous and other effect which is traced by the Freudians to repression of an emotion into the subconscious probably results from the condition of the body as described.

> . . . during the first fortnight he often started on hearing any sudden sound, and blinked his eyes. Once, when he was sixty-six days old, I happened to sneeze, and he started violently, frowned, looked frightened, and cried rather badly; for an hour afterwards . . . every slight noise made him start.

Harriet Martineau, as a child, was afraid of both things and people, and says that the first person she was ever not afraid of was her aunt, who, when Harriet was sixteen, won her heart and confidence. Yet she was not afraid of God, and as she was unhappy and longed for heaven, she "seriously and very frequently" planned suicide in order to get there.

A little girl of two showed no fear of an artificial spider with its wriggling legs until she heard it called a "spider." She knew the rhyme about the spider that frightened Miss Muffet, and immediately showed panic. After that, she could not be induced to go near the object, and cried if anyone even suggested taking it out of the suitcase in which it had traveled to her home. Others will talk with the doctor and take his medicine so long as he is not called doctor. They have heard much associated with that title which destroys their comfort. Any adult who could follow the associations in the mind of a child would find a great deal to cause surprise, much which causes the child to fear needlessly. Free converse with children helps us to discover and slay their mental monsters. L. J. Martin gives a case [1] of a woman who stayed away from social gatherings because of a fear that she could not control the movement of the bowels. This phobia resulted from a very disagreeable experience in childhood. Sidis had a young woman patient [2] who would go into a panic at sight of a chicken. When she was very young, her mother told her stories about ghosts,

[1] *Mental Hygiene*, p. 81.

[2] See *Nervous Ills, Their Cause and Cure*, p. 172 ff.

dragons, and monsters. When she was six, a playmate threw a live chicken at her in the dark. This resulted in fright, screams, and fainting, with a mental wound that remained. A man who was very much afraid of the dead, and always shunned a funeral, had been shocked at the age of nine by his parents' trying to cure a growth on his breast by laying on it the cold hand of a corpse. This had caused him to faint with terror.

The genesis of fear. — Monkeys fear and hate a jaguar at sight. Kittens, even before their eyes are open, are roused by the very smell of dog to fear and anger. A fearless animal, unless it were exceptionally strong in attack or defense, would soon be reduced to the point of extinction. Fear, as we have seen, is one of the fundamental traits of childhood. The wild animal, when fearstruck, often remains silent. The chicken, when living wild as a jungle fowl, did not use its voice at all. The conditions under which the children of primitive man developed were such that vocalizing usually called help and brought safety. Consequently the modern child, true to its inheritance, is likely to cry out with fright. Fear is sometimes treated as if it were simply one phase of nervousness. It *is* the most prominent mental symptom of nervousness in young children, and the nervous child is the one who is most likely to be injured by an abuse of the fear instinct. But all children normally have a considerable degree of fear, and some authorities, as we have seen (in Chapter VIII), would regard them as dangerously abnormal if they did not have it.

Most children, however, will undergo a great deal of fright and recover from it without serious harm. If any does not do so, he was probably born with an unusually sensitive or an unstable nervous system. And here (as it seems to me)

the average psychiatrist puts the cart before the horse, ascribing adult mental illness chiefly, if not wholly, to some childhood fear which appears to have brought on nervous weakness. Rather does the weakness exist first, by inheritance, and serve as the foundation of the fear, which may take various specific shapes according to the environment that calls it out. Charles Lamb, who wrote of his insanity to Coleridge, speaking of "the grandeur and wildness of Fancy" which made sanity seem vapid, has also told us of his childhood fears. He says,

> I was dreadfully alive to nervous terrors, the night-time and solitude and the dark were my hell. I never laid my head on my pillow, I suppose, from the fourth to the seventh year of my life so far as my memory serves, without an assurance, which realized its own prophecy, of seeing some frightful specter.

He ascribed his fears to a terribly illustrated Bible history. Yet thousands of other children have looked at such histories without a tremor. Lamb was insane for a brief period and his sister, Mary, while temporarily insane, killed her own mother.

However, we can all agree on the practical lesson. All children have a right to protection in this as in other matters, and the fearful weakling must be protected more carefully than any other. "Fearful weakling" does not imply that a child who is susceptible to terror of some kind is weak in all ways. Let us not forget that each child is a unique ensemble of traits. We fear according to our inherited strong and weak traits and according to the bumps and the exaltations which we have received from our environment. One suffers fear of bodily harm, another has religious fear, another property fear, another love or sexual fears, another social fear, and so on through a long list.

Both we and our children are of course more susceptible to fear when the stream of transmission is reduced by fatigue, weakness, or other cause.

Fear stimuli, and the fear habit. — That we can learn, within limits, to fear or not to fear a given object or situation, is a matter of common observation. The "original, biologically adequate" stimuli for fear, that is, those stimuli which, without previous learning, are sufficient to rouse the emotion, are probably numerous. Both lower animals and human beings appear to respond, instinctively, to the fear cry of their species, and to those sights, sounds, odors, touches, etc., which suggest (as we mature observers would express it) a danger with which the subject can not well cope. Young children may become frantic at the first sight of large, dark eyeglasses, or the first touch of fur, or the appearance of a mask. Those observations of infants, which show that loud noises, sudden removal of support, etc., are efficient original stimuli, of course do not prove that there are no other native stimuli for fear. Pain, for example, may be such. And let us recall again that experiments on infants do not prove that whatever trait appears after infancy is therefore not inherited.

Not infrequently the fear, according to the well-known laws of association, becomes attached to something not in itself fearful at all, just as the dislike which we felt for our first bitter medicine is later roused by the sight of the innocent spoon, or one similar to it, from which we took the dose. A little girl who was left sitting alone in a wagon noticed that one horse put its head over the other's neck, and very soon after that the horses ran away, giving her a great fright. Thereafter, the sight of one horse putting his head over another's neck brought back her fear. Sometimes the origi-

nal occasion is quite forgotten. For example, one may have an excessive fear of falling down stairs and still not be able to recall the fall which perhaps gave rise to the fear. The essential part of the lesson, that of caution, remains, though perhaps overdone.

Foolish fears, once learned, especially if weakly indulged instead of being frankly recognized and deliberately "unlearned," may continue to trouble one all his life. Mosso gives an instance of an old soldier who, when asked what his greatest fears had been, replied that he had had but one, which began as a child and lasted to the age of seventy. He had always been courageous in battle, yet this besetting fear came upon him whenever he passed a little old church in the shades of the forest, or a deserted chapel in the mountains, causing him to remember a neglected oratory in his native village, and to shiver and look around as though seeking the corpse of a murdered man whom he once saw carried into it, and with which an old servant threatened to shut him up to make him good.[1]

Education in fear. — As we have found, the laws of learning take no vacation; a child is being educated in something all the time. Now fear is nature's great inhibitor, and since the busy parent in the home not made for children feels that she must do a great deal of inhibiting, she may spend no small proportion of her time educating her child in fearing, lying, and other evil practices.

A little girl was sitting on the floor. Her mother, wishing to find a quick and easy way to get her up, said excitedly, "Get up quick. There comes a mouse. It will bite you." The youngster shrieked with fright and scrambled for a chair. There was no mouse, but there was training in fear and decep-

[1] *Fear*, p. 226.

tion. Very likely the little one learned her lesson and passed it on.

In many homes are given what might almost be called a course of set lessons in fear. Parents threaten to send for the policeman, whereas it is better to teach that the policeman harms no one except bad people, and is the very man to go to if you get lost or find yourself in other trouble. Let us teach the same friendly regard for the physician and the dentist. Children have been so miseducated with regard to the doctor that in case of illness he has been unable even to make diagnosis without rousing terror, and death has been the outcome — a result that might, perhaps, have been prevented. The bogey man, if he existed, would be ashamed of the character we have given him. Since some of us are alarmed at the idea of childish belief in Santa Claus, why create a worse character?

The teacher's use of fear. — Some of the psychiatrists who offer advice to teachers warn them to make no use whatever of fear. On the other hand, one rather prominent mental specialist, in dealing with delinquent children, makes it a point to frighten them if he thinks they need it, and keeps a large knife which he brandishes before them for that very purpose. The better way lies between these two extremes.

Fear, as an emotion, lies low in the brain. The "spinal dog," and also other animals whose cerebrums have been removed, show strong symptoms of fear. So do human monsters born practically without brains. The teacher, in her attempts to form the growing personality, will appeal to the highest motive to which her pupil will respond. Surely she will not keep her group of disciples dwelling in an atmosphere of terror, but rather one of courage, optimism, uplift, and cheer. She will be especially careful not to shock the

nerves of the timid and tender-souled. But she will not fall a victim of that roseleaf sentimentality, misnamed idealism, which prevents the use of fear altogether. Sometimes a bully may need to feel fear as a means to enlightening him with regard to what he is making weaker children suffer.

Hugh Crichton Miller advocates flogging for responsible drunkards, supporting his argument with a very interesting piece of psychology, as follows:

> As an individual becomes less and less capable of correlating his actions with their future consequences and their necessary results, as the possibilities, the pros and cons, begin to vanish from his outlook, they probably go in the following order. The first thing is what his employer is going to say to him, the second is that he is going to lose his place, and possibly have financial loss, the third is some pledge he took some time ago, the fourth is the promise he made to his wife, and the fifth is the thought of his baby or something of that sort. The last thing to go is the consideration of physical discomfort, that is a psychological truth we cannot get away from. The prospect of physical pain is the thing that lasts longest and penetrates farthest into that region of mental fog into which the drunkard is advancing, and therefore you have to use the thing that is going to last longest as a deterrent prospect. The idea of personal liberty, the dread of being locked up, does not last as long. We say we do not use flogging because we are such humanitarians. That is a fine word with a nice sound about it for people who are too sentimental to actually follow to its logical conclusion any definite argument; too white-livered to flog a man for being drunk when we can prove his responsibility up to the hilt. Therefore we allow him to kick his wife's head![1]

If we consider the chief fears of our childhood, most of us will discover, probably, that they were not caused by anything done by the teacher in the schoolroom. The home and the church have both been far greater sinners against the unarmored souls of children than has the school. We are all guided to some extent, I believe, and ought to be, by sentiments of fear, though we may prefer to call it by the

[1] *Psychology of Alcoholism*, p. 31.

name of " respect." Whatever the name, the child should acquire some of the sentiments, toward his teacher, toward deliberate public opinion, toward law and order, and many other objects. There is every reason why he should learn them, largely by actual experience, in school.

Another large part of the work of the teacher consists in destroying useless fears and their effects, and in the teaching of courage.

The teaching of courage. — Getting rid of fear and its effects and teaching positive courage are two aspects of the same process. In both cases, we are forming new connections in the subject's nervous system.

We have found (in Chapter XII) that in learning that which makes for mental health (and so " unlearning " that which makes for mental illness), there are three points at which we can apply our efforts — stimulus, bond, and response; also, that in dealing with any one of these three, we may (1) encourage or discourage directly the presence of it, or (2) submitting to its enforced presence (or absence), overpower or neutralize the effect, or (3) detach and reattach it so that the S–B–R (stimulus-bond-response) series is desirably different from what it was before. We can not here apply this outline exhaustively, but can help, perhaps, with a few suggestions. Each case of fear needs individual study.

Managing the stimuli of fear and courage. — A mother found her child afraid of a picture which he had to pass on his way to bed. A psychologist suggested that she remove the picture; but she, understanding the case even better than the psychologist did, took the child in her arms, and neutralizing the fear stimulus by that of her protective presence and reassuring words, taught him to confront the terror

with courage. (Let us remember this when we wish that death could be removed from the world.) Frequently, a stimulus can be detached from its fear-response by showing that it has been misinterpreted, as when the dog which had been frightened by a rumbling noise overhead was taken upstairs by his master, where men were seen emptying barrels of apples. The dog went below again and showed no further fear. Sometimes a stimulus can be repeated until its effect wears off through fatigue or adaptation. The fable in which the fox, at first terrorized by the lion, was at length able to meet the king of beasts without shrinking, is true to many life situations.

Managing the currents in the stream of transmission. — Children may be taught to destroy fear in its beginning and to muster up courage by an act of will. Or other and competing mental currents may be started, as when a teacher, during a frightful electric storm, has her school sing old, familiar, and inspiring songs. Since fear in children is likely to be vague, such as "fear of diphtheria," we may sometimes keep the reasonable part of the experience, but give it more definite and rational attachment, showing that we need not be scared about germs flying around in the air like bees ready to sting us, but that we must take care about what touches our lips or gets into our mouths.

With children, as with ourselves, we need to consider the personality as a whole. Let us remember that an earnest purpose, if we can rouse it, is a great inhibitor of the undesirable. And as soon as a child is old enough to consider his own mental states, a frank acknowledgment to himself of what his emotions really are will help in the application of one of the first principles of all learning, namely, to *concentrate consciousness on that which is to be learned.* But there is, I

believe, no need for intensive psychoanalysis, either by the teacher or by any one whose mind is possibly set on discovering sexual factors. Cameron states that psychoanalysis is not only unsuccessful in dealing with the neuroses of childhood, but may be dangerous and productive of ill effects which far outweigh any advantage that may be gained from it.[1]

Managing the responses of fear and of courage. — Let us be careful to give a child so much only as he can bear, and then teach him to " recognize and accept real conditions, and actively meet them." Within a wide range, we can control our responses in spite of our feelings. Even if we can not destroy such a response as trembling, we can neutralize its effect — go on any way. And children can learn this, especially if they discover that we all have to learn it. Go on and do your duty, fear or no fear. When Woodrow Wilson said, " Show them that you fear nothing except God and His judgments," he was probably relearning, in a new situation, this very lesson.

In many cases, the response may be the most advantageous point at which to begin, for it quickly changes the stream of transmission and so has its influence on whatever stimuli may be present. Standing and acting like a soldier has taught many a man the A B C of courage ; and the response, learned on the quiet drill field, can usually be re-attached, without great difficulty, to the frightful stimuli of the field of battle.

One difficulty at a time. — Always the child is learning according to the laws of readiness, exercise, and effect. But the affairs of daily life, if left undirected, are constantly violating those laws by imposing upon him some adult lesson in courage for which he is not ready, by giving him too little

[1] See *The Nervous Child*, p. 210.

or too shocking exercise in it, and by failing to make the effect fittingly agreeable or disagreeable.

One of the most fundamental rules in the learning of an affect is that of *one difficulty at a time*. When the mother cat is teaching her young to catch mice courageously, she first brings them dead mice, and then mice half dead, to make their victory certain. Working more wisely with her feline instinct than we do, oftentimes, with our human intelligence, she will not have their young nervous systems scarred by the discouragement and fear that result from defeat. When mice of full strength are brought, she remains on the scene to make victory certain. Gradually, they reach the point where they can assert their prowess with full confidence and courage.

We should follow a similar program. Let us look at a classical example offered by one who, though not a practical teacher, has furnished much wisdom for pedagogical practitioners.

> All children are afraid of masks. I begin by showing Émile a mask of a pleasing appearance, and presently some one puts it on before him. Thereupon I begin to laugh, and, as everybody joins in the laugh, the child laughs as the others do. Gradually I accustom him to masks that are less pleasing, and finally to faces that are hideous. If I have managed my gradation skillfully, far from being frightened at the last mask, he will laugh at it as at the first one. After this I have no fear that he will be frightened at masks.
>
> When, in the farewell scene between Andromache and Hector, the little Astyanax, frightened at the plumes which waved from his father's helmet, does not recognize him, but crying, clings to the breast of his nurse and draws from his mother a smile mingled with tears, what is needed in order to cure him of this fright? Precisely what Hector does: throw the helmet on the ground and then kiss the child. In a calmer moment one would not stop at that point, but would take up the helmet, play with its plumes, and cause the child to handle them. Finally, the nurse would take the helmet, and put it on her own head while laughing — if, indeed, a woman's hand might dare to touch the arms of Hector.

If Émile is to be accustomed to the noise of fire-arms, I first burn a wad in a pistol. This sudden and momentary flash, this sort of lightning, pleases him, and I repeat the same thing with more powder. Little by little I load the pistol with a small charge without a wad; then I increase the charge, and, finally, I accustom him to the discharge of a gun, to bombs, to cannons, and to the most frightful explosions. . . .

If he falls and bumps his head, if his nose bleeds, or if he cuts his fingers, instead of rushing to him with an air of alarm, I remain unmoved, at least for a little time. The mischief is done, and he must necessarily endure it; all my assiduity serves only to frighten him the more and to increase his suffering. In reality it is not so much the cut, but the fear, which torments him when he is wounded. I will at least spare him this last suffering; for most certainly he will judge of his misfortune as he sees that I judge of it. If he sees me run to him with a disturbed air, console him, and pity him, he will think himself lost; but if he sees that I remain cool, he will soon regain his own composure, and will think the evil cured when he no longer feels it. It is at this age that the first lessons of courage are learned, and that, suffering the slight pains without dismay, we learn by degrees to endure those that are greater.[1]

CLASS EXERCISE

Let each report a case, preferably from his own early experience or from his observation, which called for the eliminating of fear, or the teaching of courage, or both. The class, treating the case as in the present, will suggest ways of dealing with it by changing one or more of the fundamentals — stimulus, connection, or response.

FOR FURTHER STUDY

1. Dr. Martin tells[2] of a case in which a child who had been frightened by the screams of children in a near-by hospital was cured of her fear by being taught to associate these screams with the happy shouts of children jumping from spring boards at the baths. Discuss the method of treatment here employed.

2. A teacher who found one of her pupils afraid to take his part on exhibition day, made believe that she was afraid to make a speech which was required of her, whereupon the child held her

[1] Rousseau's *Émile.*

[2] In *Mental Hygiene*, p. 82.

hand, encouraged her until the ordeal was over, and forgot his own fear. What do you think of the method? By what means was she changing his stream of transmission?

3. Attempt a list of the chief fears that are likely to appear in connection with school life, such as social fear of classmates in reciting, embarrassment in play, fear of disease epidemic in the community, of injury in games, etc. Suggest how we can teach courage in these situations.

4. A girl felt "something inside of her" telling her that when she reached a certain corner where many of the young men of her acquaintance were often seen after school, she would trip and fall. She kept assuring herself that she would not do so, but when she reached the corner she became confused, turned her ankle, and fell. Was she practicing fear according to the law of exercise as she approached the corner? How would you deal with such a situation?

5. What is the relation of fear to worry? Does one ever worry without fear?

6. What psychology underlies the statement that "perfect love casteth out fear"?

7. A normal school student was very fearful of being left alone with any of her teachers and of having to hold up one end of a conversation. How could the teachers cure the fear and teach courage in such a case?

8. Darkness is powerless to harm. Why do children so often fear it? Or do they fear, by association, that which may happen in the dark? A little fellow who was "afraid of the dark" was given a small flashlight to take to bed with him. Comment on the remedy.

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. Fear as an inhibitor. (Burnham.)
2. Parental treatment of fear. (Gruenberg.)
3. Fears of childhood and of later life. (Benson.)
4. General anxiety and specific fears. (Morgan.)

5. Sex fears of children and adults. (Williams and Hoag, Chs. VII and VIII.)

6. "Psycho-analysis and the inferiority fear-complex." (Morton.)

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CHAPTER XXIV

Anger, Obedience, Docility, and Initiative

Exercise. — Should one obey without question all the laws of his country? If some thoroughly unreasonable law were passed, what should be one's attitude toward that? Do children have any similar problem? If so, show how.

Irritability and temper. — Childish fits of irritability may be either acute or chronic. There are some children who seem to have periodic explosions, mental electrical storms which — their violence once past — will not return for some time. More common, probably, is chronic irritability.

First of all, let us consider what trait is really expressing itself in this condition. Often, the child wants to gain attention, win self-elation, or secure some prize. He would indulge a fit of good humor and laughing instead of the opposite if it would procure him the same result; but he adopts the method which, he has found, centers on himself the attention of his elders and leads them to compromise.

Assuming that anger or irritability is the basic trait, we must get at its cure by asking its cause. No doubt there are great differences in individual inheritance. High temper is apparently passed down as a Mendelian dominant. Where it is strongly inherited, the whole plan of life must be arranged with special care. Very frequently, bad hygiene or actual ill health is the cause, and everything connected therewith must be surveyed and adjusted. Not infrequently, the child

simply " catches " his anger, especially at home, from sympathetic response to the stimuli of nervous, excited, angry parents and older children about him. Perhaps the child is teased, persecuted, fatigued, or suffering from desires which can not be expressed. Anger, let us recall, was originally an emotion of defense, designed to relieve desperate situations. Accordingly, its seat is low in the brain, lower even than that of pleasure or of sexual desire.

This points us to the first great requisite to cure. See that the laboring brain has sufficient energy in its high levels to control its lower ones. The rest is a matter of individual application of the laws of learning. If tantrums have brought anxious attention and some desired reward, we will pay little heed, perhaps, and see that the reward is not forthcoming. Suggestion may help : " John is not really angry. He is just making believe." Or, " Let's bring back the good-natured boy." In many cases it is best to act as if the anger is not even noticed. Certainly we shall not keep talking about it till we aggravate it beyond measure, nor be heard remarking that " Mary is very high tempered." If there is on the part of the child a desire to coöperate, we may show how people look and act when they are angry, and perhaps reënforce the teaching with stories, and mottoes, and appropriate poetry.

Curing a case of cross-face. — One of my students, remarkable for her constant good nature, has given me the following secret of it :

> Certain habits came to me as a matter of chance or accidental environment, but others I acquired by hard determination and persistence. I remember distinctly how I overcame the habit of frowning by trying to be continually smiling. My aunt told me one day that if I didn't stop looking so cross everybody would run when I came near, and I would not be able to please anybody. She used to show me just how I looked and finally I began to realize how terrible I appeared. Then I began by pinching the corners of

my mouth in order to tell them, as I said, that they must tip up, not down; and next, I used to make everybody and everything seem funny to me, until after a time I discovered there was a happy expression on my face when I was not even aware of the fact.

Obedience. — It was stated after the World War that one reason why General Pershing was selected to command the American Expeditionary Force was because he had obeyed orders so well during the trying time when he was at the Mexican border. This may remind us that the kind of obedience which is declared by the Scriptures to be better than sacrifice, is an art which requires some degree of maturity for its learning. The child at the age of six to ten, says Dr. Wooley,[1] begins to understand that obedience is not mere response to the personal demand of an adult, but to definite social laws. He is very sensitive to the judgment of his peers. He is also very quick to accept group standards, and suffers if he must violate them, as in clothing or behavior.

If every object about us would obey us, coming and going at our beck and call, this would soon be a strange world. But since our will is balked by the stubborn environment, we are likely to feel that the fawning dog or the intelligent child should be the willing instrument of our omnipotence. Accordingly, we issue commands in great numbers, and our words begin to return unto us void. Further, the child who is commanded may lie anywhere in the range from ultra-suggestible to negativistic, and the commander may be anything from a martinet or a bully to an apologetic pleader or an exerciser of rightful authority. If we would apply hygienic stimuli, we would see that most of our wishes are conveyed as suggestions or requests, and in such a way that it is not necessary to force matters if they meet resistance. Real com-

[1] Page 353 of *Child Care and Child Welfare*, issued by The Children's Bureau, Washington, D.C.

mands should be few. As a rule, leave the child sufficient room to feel that he is self-determining. If personal relations are wholesome, he will usually determine himself aright.

Curing disobedience. — We need, in every instance of childish disobedience, a real diagnosis, with medicine to fit the case. To begin with, we ought to make sure that the child is attentive when we speak; that he hears; and that he understands what is required. Otherwise, we have not applied a real stimulus. Also, as we value his growth in intelligent self-control, we will try to let him see the reason for the régime to which he is asked to conform, and show him that we also conform to it. Obedience is not a form of hazing. It is a community project. Let us see that the bond is formed, not between obedience and slavery or humiliation, but between obedience and all-getting-what-we-want.

Perhaps the mother is somewhat overawed by her child's temper or strong will, and so has given him an education in disobedience. Dr. Martin[1] describes a case of a child who habitually said " I won't," even when he afterward obeyed. The social worker introduced the child very formally, whereupon he was told that the Mental Hygiene Clinic of the San Francisco Polyclinic had heard that he repeatedly said " I won't " at home, and was making his mother nervous. On being asked if this were true, he kicked his legs against the chair, looked at the ceiling a while, and pleaded guilty. Dr. Martin then told him that the Mental Hygiene Clinic of the San Francisco Polyclinic had decided that he must say this no more, and asked him if he was ready to obey. He affirmed that he was. She arose and bowed him out. This grave and dignified procedure worked an immediate and permanent cure.

[1] In *Mental Hygiene.*

The natural tendency — temptation, perhaps, when we find anything wrong in our bailiwick, is to try to cure it by a quick forbidding. We are as foolish as those who would reform society by merely passing laws. We ought rather to consider the psychology of the situation. A child is not a finished soul with sovereign free will. Often, he could not obey if he would. He may be much more attached to his gang than his teacher, or he may feel that carrying out a given command would violate the very sanctity of his home traditions. It will help greatly if every time we tell a child what he shall not do, we explain to him what he should or may do, and the results to be expected.

Negativism, the tendency to do the opposite of what is required, is caught, so Cameron thinks, from an unrestful atmosphere, and is the natural response to persistent but ineffective attempts at control. The child becomes hardened, and careless of reproof. To cure him, we must keep ourselves in the background, drop our appeals, arguments, expostulations, and threats, and treat him with the same courtesy we would show an adult. Then, if interference is necessary, let it come without warning and with irresistible force.[1]

If we make ourselves worthy to be obeyed, show ourselves an example of cheerful obedience to the powers above us, praise the obedient and make disobedience an unpopular and disagreeable road, and especially if we make ourselves real leaders of our school group, incurable cases of disobedience will be extremely rare.

Fighting and bullying. — In managing the fighting instinct, we do not yet agree on ideals. It is commonly asserted that most boys have inherited a high degree of the fighting instinct. Perhaps they have, but we shall never

[1] *The Nervous Child*, p. 60.

know until we stop over-stimulating this trait, as we do that of sex, by unseemly talk, pictures, and behavior.

Shall children fight as a part of their regular course in education, their normal bringing-up? The author's personal answer to this question is an emphatic "No." When the nations of the world are agonizing to outlaw international fighting, why should the personal morality of childhood sink to the level of little roosters? Fights are likely to take place under unregulated conditions, and so may result in serious injuries, of lifelong consequence. Accordingly, they represent a more serious state of immorality among children than would prize fights among adults if commonly engaged in by all male members of the community. That fights are not necessary to manhood is shown by the fact that good men have grown up without fighting, men able and willing to take up arms in defense of their country. So much of the spirit of combat as spontaneously develops in children brought up under hygienic conditions should be turned largely in the direction of such games and contests as involve friendly rivalry, like those of competing troops of Boy Scouts. These, if topped off with well-regulated boxing at the proper adolescent age, will give such satisfaction that very few will cry for more.

That boys or girls left to themselves will "naturally" fall into an occasional fight is no argument. The question is what they can be brought to achieve under vigorous leadership. The whole tendency of the largest-minded leaders of this age is to steer away, everywhere, from ill-willed competition, and to indulge rivalry only within the larger sphere of good will.

Bullying appears to be an expression of what some would call the hunting-and-teasing instinct. Since it is permitted

in so many homes, there is no wonder that it shows itself at school. Teachers often find that they can cure it, without punishment, by pitting some other trait against it. One teacher successfully appealed to a boy to take care of the very children he had been teasing and bullying on the way home from school. The manly trait of affording protection, already budding in him, his desire to please his teacher, and his love of displaying his personal prowess so overwhelmed the teasing trait in his stream of transmission that the day was won.

Docility and initiative. — When General Pershing had gone overseas, he sent back directions for the training of the American soldier. Said he, " An aggressive spirit must be developed until the soldier feels himself . . . invincible in battle." We need to develop in our children this aggressive, invincible spirit as they attack their daily tasks.

The docile child is likely to receive high praise. He is pliant, tractable, yields to our will and makes no trouble. But " the good die young." Perhaps this is partly for the reason that they are under-vitalized, partly because their initiative is so killed off by parental and " teacheral " domination that they are not well fitted to cope with the world. Too many parents do not even recognize initiative when they see it, but go on, when their offspring are no longer children, choosing their sons' and daughters' clothing, dictating and electing their studies, determining their political and religious views, and even selecting their life mates — or sometimes demanding such devotion to the parents themselves that no other close attachments are possible.

We can not, of course, expect any one child to show initiative in all directions. But his leading traits will cause him to lead off in some way whither his talents point, and that

choice we must respect and encourage. Our schools should aim to provide increasing opportunities for every sort of leadership.

FOR FURTHER STUDY

1. A young girl who could read well but could not read in public, and who could speak extemporaneously but could not deliver a memorized speech, was told by her family physician that she lacked self-confidence, and advised to gain it by learning to drive the family car. Her teacher of oral expression advised her to skip rope before the class. She used both of these remedies thoroughly, but failed to improve. Why do you think this was? Can you give suggestions as to how she might have gained the ability she needed?

2. Boys who bully little girls have been helped by having them play more with other boys. Explain the efficacy of the measure.

3. Puffer [1] reported some years ago that about 75 per cent of all boys belonged to some gang, and that about 70 per cent of all gangs fought. Do you think this would be true now where Boy Scouts are well organized? Why?

4. What difference does it make to you whether the one who commands you speaks with the air of social coöperation or that of a superior imposing his will on one who is beneath him? Do you think children are sensitive to this difference of manner?

5. What influence is teasing likely to have on temper? Suppose you were teased by giants three times as large as yourself and many times as powerful. What would be the effect on you?

6. Why do the muscles of any person's face relax or pull as they do, giving him a certain facial expression, the mouth turning up or down, etc.? What is it that is being expressed? Do you think the facial expression shows the balance of forces among the different brain centers as they pour their energies into the final common paths of the nerves that control the facial muscles? What relation do the facts of the case bear to temperament?

[1] *The Boy and His Gang.*

7. A girl of twelve years, who had beautiful golden hair, burned one strand of it with her electric curler. In her rage she took the scissors and haggled her hair all over her head. How would you deal with such a case, by ignoring it, by punishment, or how? Why?

8. "When I was a young boy," reports a student, "I yawned at the dining table in the presence of visitors. My father, who had often told me before to cover my mouth when I yawned, reached over and gave me a severe slap on the face and said, 'I'm through telling you to cover your mouth.' Well, ever since that day I have always covered my mouth when I yawned, whether I'm in bed, alone, or in company."

Comment on the case.

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. Relation of school and home in dealing with problem children. (Martin, Ch. VII.)

2. The boy and his gang. (Puffer.)

3. Management of children as to temper, etc. (Cameron, Ch. III.)

4. The problems of punishment. (Gruenberg, Ch. II.)

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CHAPTER XXV

Sex Education

Exercise. — In the school system which you passed through, what provision was there for sex education? Comment on the situation.

What is the sexual situation? — Here is an instinct with very strong personal, family, and social ramifications — the sexual. If it were taken out of the world, the personal experiences, the life motives and attachments of most people would be very different from what they now are; the family, that most stable social unit without which it appears impossible to build a lasting state, would presumably disappear, and future existence on our planet would be jeopardized.

This instinct comes to its physiological ripening (puberty), in American boys, at the age of eleven and a half to sixteen and a half, and in American girls at the age of ten and a half to fifteen and a half, with scattered cases falling outside these limits. From this time on, sexual currents usually pour themselves into the stream of transmission in such a way as to affect the expression of other traits, make self-management and self-adjustment more difficult, and influence greatly the solution of other life problems. In spite of the great masses of knowledge available, our per cent of efficiency in applying it has been very low. The bio-mental explosions of sex are driving some lives forward hopefully and shattering others hopelessly. We ought to do something more than pick up wreckage.

There is general agreement that one great aid in this crisis lies in education.

When does sexual life begin? — Certain authorities are supposed to have made the remarkable "discovery" that the child's sexual life begins not later than birth and waxes strong some years before puberty. We are much in need of more facts from the field of child study. It is the author's belief that the sexual instinct does not commonly show itself with any considerable strength before the age of puberty *except under undue stimulation.*

In the first place, much is set down as sexual which probably is not really such at all. The question, "Where did the baby come from," is not necessarily any more sexual than is the question, "Where did the Christmas presents in my stocking come from." Both represent natural and commendable curiosity. But young children under normal conditions of frank instruction and wholesome satisfaction do not appear to be any more curious about sexual matters than about other matters.

Undoubtedly, children are commonly subject to much sexual stimulation which they ought to escape. In some environments, it may be impossible to prevent a child from seeing undesirable pictures, hearing discussions of love affairs, reading of sex in the printed matter of the day, etc. But the situation is often made worse by the comments of adults, which lead the children to regard these things as something secret and perhaps to be feared. The adult attitude and speech — the snatching away of the page, the veiled hint in conversation, and so on — all are likely to react on the child in such a way as to intensify the very effect which his would-be guardians had hoped to avoid. If, on the other hand, the matter is ignored or treated in a perfectly casual

and open manner, probably the little experience-seeker will react normally and pay no attention to any subtle significance of the object in question. The unnecessary projection of the adult view into child life is undesirable. To be avoided also are all such stimuli as the conduct of vicious nurse-maids, smutty stories, clothing that is tight, improper, or unclean, and the more direct and almost compelling influence of older and ignorant or evil boy and girl companions.

Mature germ cells are not found in the child's body before the age of puberty; and in general, mental life corresponds with physical development. The child is a bio-mental unit. Without undue stimulation, he will not feel, or suffer from, any considerable sexual urge. If he undergoes sexual "trauma," I believe it is likely to take the form of nervousness engendered by unready cells which can not yet respond adequately to sexual stimuli. It is like arithmetical trauma, or reading trauma, or violin trauma, nervousness resulting from the too early or too vigorous attempt to rouse a response to these subjects.

Are we dealing successfully with sex?— The greatest single cause of disability in the United States Army is venereal disease; yet the American army, as compared with the armies of other nations, makes a very creditable showing. To what extent our civilian population is disabled by the same cause we do not know. We do know that thousands of our young men are weakened; that wives suffer through disease, sterility, operations, and the birth of dead children, and not infrequently make the sacrifice of life itself; that babies are born dead, crippled, or defective, perhaps doomed from birth to a life of blindness; and that men who thought themselves cured of venereal disease find later that they are cursed with sterility, paralysis, or insanity.

It is not the intention here to stress the seriousness of these diseases; but they offer tangible and impressive evidence of the need of action. The great burden of mental evils that accompany this condition we can only vaguely estimate. That there are also, aside from disease, multitudes of victims of passion and habit gone astray, with con-

Fig. 15. — The sources of first knowledge about sex are commonly evil. The statements of college men indicate that 91.5 per cent — represented here by black — received their first permanent impression about sex from unwholesome sources. (From *The Problem of Sex Education in Schools*, a pamphlet issued in 1919 by the United States Public Health Service.)

sequent personal inefficiency and the storming or wrecking of family life, and that society itself is infested with commercialized prostitution, we can be only too sure.

Dr. Exner's well-known study of 948 college men revealed that 91.5 per cent of them had received their first permanent impression about sex from unwholesome sources. (See Figure 15.) Most of them (79 per cent) said the effect of

this was bad. Further, the average age at which the majority of the men received their first sex impressions was 9.6 years, and these impressions often led to some form of sex practice between the ages of 12 and 15 years, whereas the average age at which most of them received instruction about sex from wholesome sources was 15.6.[1]

Suggestions of an ideal in sex education. — The child's first need in sex education is protection — protection against the evils of ignorance and suppressed curiosity on the one hand, and those of unwholesome information and undue stimulation on the other. One method of dealing with the instinct-emotions, as we have already seen, is to leave them dormant. Certainly this is the ideal to pursue with sex in childhood. Leaving sex dormant, however, does not mean that it can not be mentioned by parent or teacher. There is a vast difference between having ideas of sex pass through the mind dispassionately, and having the whole personality inflamed with sexual feeling. We should all learn to take sex as a matter of course. To mention whiskey, baseball, or politics in polite society does not mean that we wish to start either passion or action about them. The same should be true of sex.

Further, the protector of the child should aim to keep the traditional " two jumps " ahead of the vulgar world. A ten-year-old boy, being compelled while on a visit to sleep with an older companion, was urged by the latter to accompany him in masturbation. " Go chase yourself," was the reply. The ten-year-old had been over the whole ground with his parents, knew more than the other could teach him, and was confident in his rectitude.

[1] See *The Problem of Sex Education in Schools*, a pamphlet issued by the United States Public Health Service, 1919.

The prepubescent should know, before the flames of sex begin to burn, what puberty will bring, and what to do about it. As soon as boy and girl can see shining out before them the brightness of future days, they should be challenged with the ideal of making that future as glorious as possible. While knowledge of diseases and other dangers ought to be communicated, the emphasis should always be elsewhere, on the positive, showing that conservation means achievement, personal happiness, family joys, and social welfare. Nor is chivalric youth indifferent, even at an early age, to the properly presented appeal for the next generation.

The place of the parent. — The first duty of parents is to maintain an attitude of sympathy and frankness with their children. Too often the child, responding to the suggestions of the home atmosphere, becomes afraid or ashamed to ask about that which he wishes to know and has a right to know.

The second duty, in addition to habit training in bathing, sleeping, etc., is enlightenment. Ignorance, like necessity, is the mother of invention, but of a fantastic rather than a useful kind. The baffled curiosity of the uninformed child keeps forming pictures of how things may be, mostly incorrect but no less inflaming. The situation may even develop into a kind of game of hide and seek, the parents trying to see how much they can keep secret and the child how much he can discover.

That parents are not doing their duty in this respect is shown by studies of the situation, which reveal that about 25 per cent only of college men and college graduates have received any sex instruction from parents, and that most of this was received at an age too late to be of greatest use. There is some honest doubt as to whether we should destroy

in children's minds the belief in Santa Claus. But there is a much more harmful myth whose continuance is not so much debated, the myth of the stork. Belief in Santa Claus is not nearly so serious a retardation in the outgrowing of mythology as is the acceptance of the god Stork and his traditions.

There is a growing conviction among investigators that parents must themselves be educated, both in child study and in sexology.

Teachers and their training. — The wise teacher will be very slow to usurp the function of the parents or to shoulder their responsibility, and very tactful in all endeavors at coöperation. That teachers need more concentrated work in child study has already been emphasized. There is serious need also in our training schools for a course or courses too infrequently found, in eugenics and the sex life, with special emphasis on methods in sex education.

Nor is training alone sufficient. Born teachers are needed here also. These who undertake sex education should have solved their own sex problems, have a sane view of the subject, with no peculiar theories to be aired, and be able to deal with questions of sex with dignity and without embarrassment. Above all, they should hold such a place in the regard of their pupils that their teachings will be received with respect and incorporated into the youthful personalities.

Sex education in the elementary school. — In the lower grades, we should aim at purity of atmosphere, a sound régime of work and play, and incidental sex instruction.

Care may be needed to prevent foul talk and ribald songs from circulating. The mother of a little girl in the fifth grade asked for a separate seat for her daughter who, she said, was being contaminated. Investigation showed that

the little girl had herself introduced the contamination into the school, and was making many copies of indecent songs for distribution among the boys. Obscene markings in toilet rooms and elsewhere can usually be prevented or stopped by frequent inspections, prompt removal by janitors of whatever appears, and frank, kindly talks to groups or grades. Absences from the room can be greatly curtailed by training in correct bowel and bladder habits. Masturbation is a problem for parental attention except where parents are incapable of handling it. Moderate masturbation, especially in boys at time of puberty, should not be regarded as abnormal. Much harm has been done, in this connection, by treating boys as serious offenders and by telling them that they were headed for the insane asylum or toward permanent weakness. Healy states his conviction that the best remedy for the habit of masturbation lies in the constant companionship of some suitable person who will see that the mind of the patient is healthily occupied and that he is practically never left to himself. The hope of a cure is much greater in young children than in older offenders. Young children who practice the habit in bed may often be helped by giving them a doll or other interesting object to occupy attention till sleep comes.

Abundance of happy occupation is needed for both work and play periods. On the playground, particularly, there is need for supervision and leadership to fill the time with healthy activity and see that evil communications do not corrupt good manners. Overwork is to be avoided, especially at the time of sexual ripening in girls, as it places a double strain on the thyroid and may lead to disease of that gland, as well as nervous difficulty.

There appears to be agreement in the opinion that sex instruction should be continuous rather than confined to

occasional emergency talks and the like, and that it should be largely incidental. There is danger, however, as in all cases of "formal discipline," that instruction which is merely incidental, such as the sex knowledge derived from nature study, will not carry over and be applied to the child's personal life at all. It will be a great triumph in the name of common sense if we can bring ourselves to present fully and frankly, instead of in a mutilated way, the subjects we do teach, such as elementary anatomy and physiology. This we really owe to the children. Boys, for example, learn in hygiene that the exercise of all parts of the body is necessary to healthy growth. Also, they are very quick, as they approach manhood, to suspect that their organs of sex are not developing properly. The result, in some cases at least, has been a false conclusion which the children had no way of correcting.

Much of the most valuable kind of "incidental" instruction can be given by the school nurse, the physician, and the health educator (physical director), who can drop the needed personal word at the right time, and also give lectures to groups.

Sex education in the high school. — In the high school, the incidental instruction should be continued through all the years, with even increased care for purity of atmosphere and wholesome occupation.

But instruction can now be more than incidental. Books on sex may be placed in the library (perhaps not to be taken out), and some schools have found it wise to give, in the first year of the high school, and to classes segregated by sex, a course in personal hygiene which includes the physiology and hygiene of the sex organs and other necessary topics. Biology and related subjects also contribute much, and the

care of children is sometimes taught in a course in home-making.

Special attention is needed, in the high school, to the management of athletics and social affairs. All should be influenced to participate in games, but more for fun and health than prowess or reputation. In social functions, both parents and teachers ought to find a place. A high school poorly managed in these respects may be a real menace to good citizenship.

Above all, let not life for the adolescent become static and take on the aspect of purposeless routine, but be energized and directed by ideals for the future.

FOR FURTHER STUDY

1. Should the sexes associate freely with each other during high school days? Why or why not?

2. To what extent are parents responsible for the way in which their children spend their evening and other leisure time? Show what this has to do with sex questions.

3. Suggest some ways of sublimating the sexual affects.

4. How do you explain the fact that so many cases of sexual attraction between adolescents prove transient while some lead to marriage? Is it necessary to assume baseness of character or perfidy to explain the first group?

5. Do you know of any objections to sex education as outlined in this chapter? If so, how can they be answered or the condition remedied?

6. Mention what you regard as some of the most uplifting and some of the most degrading influences in your community that have a sexual bearing. What can be done toward improvement?

7. Describe briefly an ideal community in which all matters of sex are hygienically adjusted. What would be the conditions as to marriage, divorce, illegitimacy, disease, eugenics, etc.?

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. Sex and recreation. (Addams, *The Spirit of Youth.* Hill.)
2. The child and his sex problems. (March.)
3. Sex and society. (Thomson and Geddes.)
4. Sex and the next generation. (Jewett.)
5. Medical opinion on questions relating to sex education. (*Mental Hygiene,* Vol. IV, No. 4.)

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CHAPTER XXVI

The Nervous Child

Exercise. — Write a description of the behavior of some nervous child you have known. What do you think was the cause of the nervousness? Was it remedied? If so, how? Or, how do you think it could have been helped?

Enter the nervous child. — Every teacher of experience knows the story. The mother brings to school a child who carefully studies the teacher, perhaps, while mamma tells her that " Johnny is nervous," but not diseased in any way — or he may have, according to her report, as many ailments as competing invalids could possibly report. He must not be punished. " If he needs punishment, let me know and I'll look after that " — a condition which no teacher should agree to. Perhaps there is a complaint that other children have not been kind to him. His previous teachers " didn't know how to manage him. — Don't, Johnny, dear, don't tie your shoestrings into hard knots. Mamma will have to untie them all to-night." He is a fine little fellow if you once come to know him; but of course he must be allowed to leave the room whenever he wants to, and it makes him very nervous to be kept after school. If anyone speaks harshly to him, as his father does sometimes, it makes him so sick at his stomach that he may actually vomit. He can't be expected to study very hard; but if he shouldn't pass, he would no doubt fall exceeding ill and the blow might even kill him.

The above is only suggestive. No two pictures of the nervous child would be just alike. For to say that a child is nervous is about as vague as to say that he is naughty. There are many kinds of naughtiness and nervousness, with many different causes.

However, in most cases, the mother would probably describe the situation quite truthfully if she would say (though she ought not to say it in the child's presence), " I bring you here one who was either born with a weak nervous system because of defective inheritance, or one whom we have educated, by the conditions in our home (perhaps supplemented by conditions in school), into unwholesome ways of conduct which are commonly spoken of as nervousness. I hope that with growth his later-developing inheritance, together with a carefully adjusted environment and training, will bring about a sloughing off of these imperfections. And may you, since you are his teacher and not his mother, succeed better than I have."

" Love is never vexed," said an ancient wise man. Teachers must have affection enough to love, not only nervous children, but also those grown-up children who have become parents, and who are miseducating their young to be " nervous."

What characterizes the nervous child? — As already indicated, the name of the various kinds of nervous behavior is legion. Irwin and Marks describe neurotic children, " for practical purposes," as those who, for some reason other than lack of intelligence, " do not get on in the group to which they belong by reason of their intellectual endowment." [1] We are likely to think of nervous children as being unable to sit still; but as we have seen, activity is a

[1] *Fitting the School to the Child*, p. 181.

major trait of all healthy young children. To require a child to sit motionless for two minutes is to demand of him an impossibility. It is the kind, rather than the amount of activity that marks nervous children — many of them. Movement is frequently spasmodic, showing tics in the muscles about eyes or mouth, or jerks of head, hands, or feet. These habit spasms may have been learned, and can perhaps be " unlearned," brought under control. They, together with disturbances of sleep and eating (or nutrition), are in young children the most common of all symptoms.

The fundamental fact about the nervous child is in most cases weakness, a weakness lodged somewhere in the nervous system and commonly showing itself in the form of irritability, excessive emotion, self-centeredness, fatiguability, and suggestibility.

Irritability may be both afferent and efferent, sensory and motor. The child may complain of bright lights, or loud noises, or be unduly affected by certain smells or touches, or keep complaining of cold or warmth. Sometimes the efferent nerves are especially sensitive, resulting in unexpected jerks, jumps at trivial things, and unnecessary and ineffective motions, such as squirming. In other words, there is an irregular discharge of nervous energy. The child " stutters " in certain aspects of his behavior, even if not in his speech. In emotion, the nervous child tends to remain childish, laughing and crying and showing temper in a manner suggestive of the infantile. Trifles loom large, and fear especially prevails. Naturally, one who can not bear the shocks of the world learns to seek ways of self-protection and so becomes somewhat self-centered. But the self centers are likely to be sensitive to begin with. Weakness of course engenders fatigue. The nervous child is likely to seek for

ways to avoid work, heave long sighs over his task, and look for relief. What with his weakness and lack of integration, he may take suggestions quickly from his surroundings; or, if difficult things are proposed, may become contrasuggestible, doing the opposite of what is suggested, or negativistic, refusing to act.

From all this we can understand why some of our little nervous subjects should show a too-great interest in their own bodily processes, such as breathing, heart action, or digestion, and why some are introspective, self-conscious, and day-dreamy, with an abnormal imagination which accentuates their fears. Since nervous disturbances set up bodily conditions, nervous children are commonly characterized by digestive troubles, perhaps with vomiting or refusal of food, by headaches, unusual paleness and flushing, too free sweating under excitement, enuresis, and even fainting fits.

What underlies nervousness? — We are apt to think of nervousness as a kind of persecutory meanness which the child could throw off if he would. This results from the common error of assuming that others are like ourselves, fundamentally normal, but temporarily acting queer.

In the first place, the nervous child may be normal, and his peculiar conduct purely functional, brought on by extreme situations, unusual stimuli, and peculiar views of life to which he is exposed. He may have been babied into selfish, peevish weakness or dependence, or overworked into chronic, irritated, frantic fatigue. Either his energies and his tasks have not been properly proportioned, or those energies have been miseducated into wrong channels. One pampered child in a third grade, regarded by his frightened mother as nervous and fidgety and in danger of serious

disease, was cured by firm discipline and by the provision of an outlet for his excess energy along mechanical lines.

In other cases, the nervousness may have a bodily cause, or at least a bodily accompaniment. Cameron distinguishes, among nervous children, five bodily types.[1] The first group shows persistence of certain infantile characteristics, as large abdomen, thick limbs, and fat, watery tissues. Flabby muscles may be present, with bones so weak as to induce rickets. There appears to be a lack of calcium in the body, which shows itself in weakness of bony structure and in heightened irritability of the peripheral nerves. Group two is marked by amyotonia, or lack of tone in the skeletal muscles, with pallor, showing weakness of the cardio-vascular system, and signs of exhaustion. Catarrh, abdominal pains, and constipation are frequent. Posture is poor, and should be corrected as a means of treatment. The third group is characterized by rheumatism, whose inflammation, spreading to the brain, may cause failure of voluntary control in the form of chorea. The fourth group does not seem nervous in the usual sense, but exhibits nervous exhaustion, and even katatonia resembling that of dementia precox, the child sitting in fixed position, with dull face, and limbs tending to remain as they have been placed. Group five shows a simple form of hysteria which may appear rarely as early as the third or fourth year, with greater frequency in children above that age.

The third group, the choreic, illustrates well the fact that even children who are normal as to nerves may be rendered nervous by acute infection. The child who has chorea, commonly known as Saint Vitus' dance, may seem to have the " fidgets," characterized by more than ordinary jerki-

[1] H. C. Cameron, *The Nervous Child*, Ch. XII.

ness, and may also show loss of appetite and of mental power, with uncontrolled attention and emotional bursts of weeping. The physician's history of the case will perhaps reveal that it began with an attack of tonsillitis, followed by arthritis (a form of rheumatism whose twinges in the joints are frequently regarded as " growing pains "), and this in turn by endocarditis, a kind of " heart trouble." Not every case of tonsillitis runs this prolonged course, and many tonsils have been removed unnecessarily. But all these difficulties, and in addition, the inflammation of the brain which causes the peculiar fidgety behavior, are due to the same streptococcus germ. The source of the germ is often found to be the milk supply.

If the child who has Saint Vitus' dance is kept out of school and given the " rest cure " he is likely to recover within a few weeks without medicine — though he should of course have the care of a physician.

The nervous child as potential psychoneurotic. — In a previous chapter (Chapter VII) we studied fatigue, anhedonia, and the psychoneuroses — namely, neurasthenia, hypochondria, hysteria, and psychasthenia. The symptoms of nervous children remind us very strongly of the conditions that prevail in the former list of ailments. Many such children are very probably born psychoneurotics, doomed to go on dwelling in this borderland of disease. Others who might enter it can very likely be saved from such a fate.

The psychoneurotic, as we have found, is likely to be oversensitive, self-centered, and given to seeking elation by cheap means. This is also one of the most striking characteristics of the majority of nervous children. The child may threaten to go into a tantrum, or, without verbal threat, may show

that he knows very well how to get his own way by creating signs of an approaching storm. These efforts to secure attention and dominate things are often misjudged by the parents. Just as the masturbating child may be wrongly thought to have come into a very sinful and depraved sexual state, so the nervous weakling who seeks a way to power may be regarded as sacrilegious or obscene when he does not even appreciate what, to adults, his acts signify. One child when in high temper would rush into his mother's presence and hurl a crucifix to the ground — an act which shocked her religious sense. But with his nurse, before the other servants, he pursued very different tactics, having found that in such a situation he could create most excitement by pulling her petticoats as high as possible.[1]

The nervous child, as stated, frequently shows hypochondriacal tendencies, developing an unusually acute pain sense, worrying about his symptoms and, by his morbid attention to his body, producing more symptoms. Many a mother takes her child to a physician and finds that the supposed bodily disease has no cause except a mental one.

That many children who exhibit poor nervous control are semi-hysteriacs, a little observation will convince us. They show the same fear, self-deceit, high suggestibility and tendency to malinger, and a further trait which is not to be passed over too lightly even in children, the same lack of ideals of a kind appropriate to the stage of development reached.

A child who was probably psychasthenic did everything, or many things, an even number of times. Having gotten comfortably settled in bed, she would get out and jump in again. She would seat herself twice at table, go twice out

[1] H. C. Cameron, *The Nervous Child*, p. 64.

of doors, look at herself twice or four times in the glass, and even go twice upstairs. For some reason, she always put the same stocking on the same foot every day that she wore it. Such habits lasted until the age of thirty-eight and then gradually faded away; she then became melancholy and at times " queer," and her memory began to fail.

In spite of all this, we must remember that children are, as one might say, normally abnormal. That is, traits which in an adult would mark him as diseased, especially extravagant emotions, peculiar ideas and queer conduct, are as natural to children as the tears they shed, and may be outgrown as most of the causes of their tears are. Childish peculiarities are often of the nature of " growing pains," not unworthy of notice, but unworthy of too much notice. The best index of outgrowing-power, of how much of the undesirable will be sloughed off with age, is found by an examination of the child's inheritance. How many of these things have the members of his family outgrown?

Finding the causes of the trouble. — There are various ways of finding the causes of nervous trouble. " Causes " is probably the proper term, for a case of nervousness is likely to have more than one cause. Perhaps the best way to discover these causes is to find wherein the child is breaking any of our " Rules for Maintaining Mental Health." [1]

Has he chosen good ancestors? A glance at them and their history may throw a flood of light on our subject's behavior. But even if his ancestry has not been the best, there is still a best thing to be done. The same inheritance, in differing environments, responds so differently as to seem

[1] See, again, Chapter XX, "Child Study from the Standpoint of Mental Hygiene."

not to be the same. If only parents and teachers would unite to study that inheritance impartially and make the most of it!

What of the blood stream? Nearly every case of nervousness will be found to have bodily accompaniments. A careful examination by a physician is needed to discover them and determine whether they are causes or effects. The whole bodily hygiene must be gone over. What of sleeping, eating, use of coffee and tea, work, exercise, and all the other items?

Is environment suitable? Children are usually fitted to the home rather than the home to the children. What does the child's environment suggest to him and lead him to practice? We need to remember that a child is constantly learning something whether we wish it or not. The question is, what is that something? He may "learn" his mother's headache as well as his aunt's way of lying to visitors, and reduce almost to a fine art the trick of getting so sick at his stomach as to throw it into reverse gear. If only we could hear and see a talking "movie" of ourselves as we discipline our children, we should understand better why they act as they do.

Carefully, and with common sense rather minutely applied, we must review in this way the child's whole régime of living. Has he too much excitement at parties, at school, or elsewhere? The average American child of to-day does have. Yet the extreme stimuli of high excitement on the playground may be followed by equally extreme monotony within doors. Has he too much or too little work? Does he worry — dreading failure? Is the child allowed to come into touch with reality and practice adaptability, or is he coddled and babied until he can not face real conditions

open-mindedly? Mothers are found still dressing and bathing their big "babies" of ten or twelve years, and humoring them in every whim because of the dread of what would happen if any other course were pursued.

Last, and very important, since a child can not be expected to introspect impartially and manage himself skillfully, is there anyone sufficiently frank, sensibly sympathetic, and inviting to the child's confidence as to get inside the little mind, find out what is actually going on there and help him, in an incidental and unofficious way, to "keep serene and whole hearted"?

Treatment of the nervous child. — What is given here as to the treatment of the nervous child must of course be general, leaving particular application to be made to individual cases.

1. Find the cause and correct faulty hygiene. We must search out what is wrong in body, brain, or environment, and change whatever is within our power. Bodily welfare, especially, is the foundation of steady nerves. Sometimes a seemingly nervous habit remains after its bodily cause has vanished, as vomiting or frequent voiding of urine may continue when the original causative disturbance has disappeared. Here is a need for definite teaching — the breaking of the habit by forming better habits.

2. Strengthen the nerves or lighten the strain. Sometimes both can be done. Happy occupation is desirable, but if the school is administered in the old-fashioned, rigorous way, probably the child had better remain out of it for a time. Children who fatigue easily may be helped by frequent rest and frequent change of occupation. The ideal environment provides resistance for all the energy the child has to spend, but without demanding more. Our pupil should bear such

burdens as he is able to, being neither overworked nor over-indulged.

3. Take a matter-of-fact attitude toward nervous symptoms. The child who is aiming to astonish, or bluff, or attract attention should find that he and his performance are considered nothing unusual. In many cases, the performer should, so far as possible, be ignored and neglected, subjected neither to pleading nor force. Fireworks that no one notices are a failure.

4. Surround the child with that which you wish him to learn; draw his attention to it, but do not force him to learn it. "What you wish him to learn" refers to such matters as quietness, control, cheerfulness, behaving unostentatiously, mental health generally. A child who hears, at home or school, constant suggestions that he is nervous, or naughty, or nearly anything else will probably live up to them. Suggestions of the opposite kind give him a different kind of reputation to live up to — and suggestion, in dealing with nervousness, *especially if backed up with good example*, is "big medicine" — as the Indians say.

FOR FURTHER STUDY

1. What could cause a child, as in the case described in this chapter, to wish to do everything an even number of times? Do you know of any who believe there is luck in odd numbers? How would you cure such a child?

2. What are some of the conditions that tend to make you nervous? For example, what is the effect of being hurried when you are doing something new, for which you have not yet formed brain connections? Does school ever impose on children conditions that adults can scarcely stand?

3. Review "Anhedonia" (Chapter VII, p. 139) and say what

relation you think it may have to certain cases of nervousness in children.

4. "No normal child should need to go across the yard [to a toilet room] between the beginning of school and play, or between play and closing. . . . In many classrooms the request is never heard." (N. Niemeyer, *Children and Childhood*, p. 26.) Show what the teacher can do in the way of giving training in regular bowel and bladder habits.

5. In dealing with adults, a nervous patient who has great faith in his healer can often be cured by being told that his symptoms are disappearing. Others insist on having everything explained, so they can "reason it out." Do you expect to find these two types among children? How will you deal with them?

6. If a child remains nervous as he grows up, what consideration should be given to his condition as a factor in determining his solution of the life problems, health, play, vocation, marriage, etc.?

7. Suppose you have a contrasuggestible child who does not like to work, but is in no danger of being injured by effort. What would be the effect of taking his work away from him from time to time, or requesting him to stop, saying you do not want him to overwork or get sick?

8. In some nervous children, the attack of nervousness comes on periodically. Show the possible relation of this to certain mental diseases which we have studied.

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. A review of nervousness and its mastery in the adult. (Carroll.)

2. Nervousness in the pre-school child. (Cameron.)

3. Psychoprophylaxis in childhood. (*Psychotherapeutics*, by Prince, Sidis, and others.)

4. Management of nervous children. (Pamphlets issued by National Committee for Mental Hygiene.)

5. Nervousness in later childhood. (Cameron.)

6. The neurotic child in school. (Irwin and Marks.)

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CHAPTER XXVII

Miscellaneous Types of Problem Children

Exercise. — State accurately what you mean by imagination. What difference between imagination and fantasy? Under what conditions should you regard fantasy in children as desirable? Undesirable?

In the preceding chapters, we have dealt with some of the most outstanding traits of childhood, and some of its most notably unhygienic aberrations. We shall here discuss very briefly some miscellaneous problems: egotism, shut-in personality, fantasy, left-handedness, and lisping and stuttering. The last two, although not so directly matters of mental health, may exert such a powerful indirect influence as to precipitate illness.

Egotism. — Let us first remember, with Shakespeare, that self-love " is not so vile a sin as self-neglecting." Egotism, in its most naïve form, is the natural and forceful outcropping of a very necessary and basic trait, the instinct of self-assertion. Without such a trait, the individual would scarcely obey nature's first law, that of self-preservation, would scarcely be an individual with hygienic self-assurance. The child is sometimes said to be a born egotist. If this means merely that his self centers develop before his social, sexual, and other centers, it contains much truth. But if it means that he would never be social unless compelled to be, it is a revival of the old doctrine of individual hedonism — that each acts for pleasure only. Schools sometimes take this belief in natural egotism too seriously, and make the reduction of

egotism one of their main objects. To adopt the positive aim of " socialization " is better. For children (with possible exceptions) are born social, and need only to have their social traits, at the proper age, educated into action.

An egotist, then, is one whose self centers are exclusively active, functioning disproportionately as compared with the rest of his brain. This may take various forms. The egotist may think more highly of himself than he ought to think, as the paranoiac does, or attempt to grasp unearned pleasure, or enjoy unearned elation, as the maniac seems to do, or center his efforts on self-advancement without regard to service, as many still do who have so far kept out of the asylum.

Health, as usual, means a nice balance between extremes. Perhaps there are as many children who need treatment for subjection, negative self-feeling, as there are who need a reduction of elation. We must educate our child to exercise that true humility of estimating himself neither too highly nor too lowly, but rightly.

Suggestions as to treatment of egotism. — Our first aim, of course, is to find out just what the situation is and what causes underlie it. Quite often there will be found a defect in previous education. For how do we all learn our place and power in the world? Largely by comparison of what we do with what others do, and by the way others act toward us. Our social surroundings become a mirror in which we see ourselves reflected. Where trait expression can be measured closely, we seldom exaggerate our achievement. We do not think ourselves the best broad jumpers if the tape shows otherwise. But beauty and oratory and much else that is admired must be estimated largely by the words and glances and general behavior of those about us. If any one of us

were constantly surrounded by people who bowed down to him, he would scarcely be human if he did not think himself divine.

Children, because they are smaller and weaker than adults, and daily see done many things which they can not do, grasp quickly at anything which indicates power. " I am magic," shouted a small boy. His family had made believe that the waving of his wand caused wonderful changes. He also enjoys a victorious wrestle with his daddy, and half believes he is as powerful as he seems.

If the elation of a child naturally weak is overdeveloped by the deference and praise of those about him, we may expect in time such a gap between his subjective condition and the objective world about him as will result in maladjustment, perhaps in the form of a psychoneurosis.

If the conduct of the child is directed toward his own gratification at the expense of others' rights, we must teach him that the egotist is sure to suffer — teach him, perhaps, by a course in suffering. Rousseau would have Émile, if he breaks the windows of his room, suffer with the cold, or even catch cold ; " for it is much better for him to have a cold than to be a fool " — an alternative into which we need not be forced. Again, if he wants a favor from a friend, he may well find that friend " as little disposed to accommodate the child as the child was to please him the evening before." [1]

By such means may the growing self be led to a true self-estimate, and to find its proper sphere in action.

The mental shut-in. — As we wish to guard the little egotist against becoming a paranoiac or a megalomaniac, so we aim to prevent the mentally seclusive, uncommunicative child from becoming a real introvert.

[1] *Émile*, Book II.

That there are great inborn individual differences in what the phrenologists call secretiveness there is no doubt. The naturally silent child has a right to his peculiarity, and may grow into a second William the Silent. In this chattering age, perhaps we should be thankful for a few such rarities.

We are concerned, then, with the unhealthy shut-in mind, disposed to cut itself off from the give-and-take of verbal communication, and perhaps from action as well. How can we recognize the symptoms? The introvert, says Morgan,[1] is likely to be of the goody-goody type, keeping his clothes clean where it is almost a duty to be dirty, yet without initiative enough to clean up if he is dirty; he is as innocent of offense as a boy just before Christmas; he is no fighter, but meekly suffers abuse; he is seclusive, working and playing alone; he keeps out of the stream of life, preferring reading to a circus; and his emotions are likely to be queer, since they are caused by his own ruminations instead of forming responses to his environment. He is likely to laugh and cry at the wrong time. If we know geniuses who possess most of these traits, it will remind us that genius is just a lucky form of abnormality (deviation from the average).

Releasing the shut-in.— As ever, we must find what lies back of the difficulty, in this case the disinclination to talk and act. It may be any of many conditions, the feeling of "Nobody cares for me," or "I'm no good," or "I always fail," or "I can't trust them," or "I shall be laughed at," or perhaps general timidity, fear not even self-confessed.

Let us remember that we want to make our pupil out-minded instead of in-minded, and so let us beware of doing anything that will add self-consciousness to the trouble. If there is any mental peculiarity that should be approached as

[1] *Psychology of the Unadjusted School Child*, p. 134.

if it did not exist, it is this. Let us not even say we wish to be a friend (implying a humiliating need of friendship), but just smile and be one. Let us find a way into the little mind through its own chosen activities, talking in a really democratic way about what that little mind likes to read or do, discovering that we also are interested in that wonderful line but have much to learn about it and so need help. By taking the receptive attitude of inferior, learner, we encourage him to assume the complementary, positive character. We shall also trust the little shut-in with our secrets — some of them — and encourage the feeling of "you-and-I-understand-each-other."

If attempts at action have been disastrous, we shall plan a campaign such that success is inevitable, though our subject will not know it. And we shall lead him on from victory unto victory. Here, again, we see the need of a system of grading which will not compel pupils to take up tasks in which they are bound to fail flatly.

Fantasy. — Let us recall that imagination, the power of combining our mental images into new ideas, new mental pictures, marks one of the sharpest lines we can lay down to bound the lower animal mind from the human. Naturally, then, when this creative, original picturing power begins to blossom forth in the personality of a child, we hope and expect that it will be multi-colored and luxuriant. Four-year-old James had an imaginary playmate named Joe. One day, James came and asked his mother for two cookies.

"Why do you want two?" inquired his mother.

"I want one for me and one for Joe," was the reply. Let us entertain all these imaginary companions, even our boy's imaginary dog, listen with wonder to the tales of adventure that never happened, and be careful never to bring the charge

of falsehood, at least until our child has told stories bigger than ours about Santa Claus, and the stork, and other convenient creations.

If the daydreaming shows unsatisfied trait centers, let us try to satisfy them. Get the boy a real dog, if possible, in place of his imaginary one. But applaud and reward the dreamer, as you do the novelist and the poet, even if he ceases to be a realist and permits his dreaming to take on that fantastic form known as fantasy. They who would confine a child to fact and deny him imaginative literature show that they themselves lack imagination and sympathy. It is of course not to be taught that everything we can imagine must therefore exist. (Many a young man who is looking for the ideal girl will never find her.) But children take great and harmless pleasure in talking of Santa Claus and fairies even when it is well understood, deep in their minds, that these things have no being. The more a child babbles out and acts out, the less likely is he to turn in-minded. Imagination is seldom a problem except where the child shows a wrong attitude toward life; and even here it is rather the underlying affective attitude which is at fault, and which needs correcting. The " cure " for most cases of imagination is for the parent or teacher to develop some himself.

When fantasy is dangerous. — A teacher makes the following report:

> I have a little girl in school who is eight years old. While in school, she is so closely wrapped in reading that she seldom notices anything that goes on. She is as bright as can be. Her mother tells me that it takes her little girl from 7:45 till about 9 o'clock to get ready for school, all because she dreams so much. I see great possibilities in her dreaming. She reads, reads, reads, and then she dreams. Of course, she can't be late to school every morning because of her dreaming; but outside of that I see no special harm in it. No doubt many of our great people to-day were dreamers once. People must have visions and then realize them.

When is fantasy dangerous? In general, when it interferes seriously with self-management or self-adjustment. If the dream spirit seizes the dreamer and bears him away from his task in spite of himself, or if he is timidly turning away from the tough old environment and seeking a cheap, unearned elation, not for temporary relief but increasingly as an occupation, he needs training in the direction of internal control and objective success. Reviewing the psychological powers, we may say that if fantasy interferes with observation and faithful report, or falsifies memory, or substitutes a dream in place of thinking, with unwillingness to test the dream by action, or sways the feelings to the distortion of truth (as with politicians), and especially if it cuts the individual off from vital contact with his environment, there is need for the mental hygienist.

Ideals for the future, if taken seriously, should be, for the particular person who entertains them, reasonably realizable. The ideal of achieving vast wealth, for the majority of boys and girls, can only end in disappointment. Even the vision of striking success should be entertained conditionally only. If all achieved it, it would cease to be striking. Best of all is the ideal of service-according-to-power. This is remarkably sure to be realized, and to give abiding satisfaction. Along the line of personality engineering and hygienic ideal building lies one of the teacher's most serious duties to every pupil with whom he or she can come into close contact.

The mental hygiene of left-handedness.[1] — "Sinister" means left-handed; but it has also come to mean queer, or

[1] In treating this and the following topic, I follow more or less closely what I have already said on these subjects in *The Child's Mind and the Common Branches*, Chapters VIII, IX, and XIII. This is done with the permission of The Macmillan Company, publishers of that book.

even wicked. Dr. Ira S. Wile found that 12 per cent of an ungraded class he visited were sinistrals, that is, left-handed. There are more left-handed children than most teachers suspect, and our usual summary method of dealing with them is unhygienic.[1]

There is little doubt that children are born more or less right- or left-handed, even right- or left-bodied. Left-handedness appears to be of the general nature of a Mendelian recessive trait. Probably three or four per cent of children are born strongly left-handed, three or four per cent ambidextrous (equally ready with either hand), and the rest right-handed. If a child is born ambidextrous, it is safe to advise that he use his right hand wherever, as in writing, one hand must play a leading part. But if he is born left-handed, such advice is not safe. Not only will his right hand never become so proficient as his left can be, but there is danger of inducing nervousness and of interfering with the development of his speech.

The sensible thing for teachers to do is to make the right hand dominant if we can do it with moderate effort; but if a pupil shows himself dominantly left-handed, and especially if he displays signs of nervousness or stuttering, then we should let him " get his hand in " the way he wants to. And further, we must stop regarding left-handedness as a weakness or a life burden. The left-handed person can be just as skillful as the right-handed. Let us show the good sense of the baseball coaches, among whom the " south paw " is very welcome.

A few left-handed children, who may be bright or dull,

[1] A prominent promoter of a popular method of writing has long advocated changing all left-handed pupils to right-handed writers. To do so would be extremely unwise.

normal or abnormal, but who are likely to be motor-minded, and so guided in what they do by the way it " feels " rather than by how it looks, naturally produce mirror writing. The pupil writes " backward " in such a way that his writing appears normal when held before a mirror. To teach such a child to write normally is usually quite difficult by ordinary methods. Dr. Wile has made the remarkable discovery that a mirror-writing pupil, by closing his left eye, can produce normal writing easily and almost immediately, the brain being then under the control, so far as vision is concerned, of the right eye only. Of course the pupil continues to write with his left hand, as he ought to do.

Lisping and stuttering. — Some two or three per cent of our pupils fail to respond well in oral language because of lisping or stuttering. Lisping is the more common and the less serious, being often a mere continuance of baby talk. It consists in omitting or transposing or distorting sounds, as in the familiar case of pronouncing *s* as if it were *th*. If the lisping does not persist beyond the age of six, there is nothing to worry about. If it continues, the teacher must not be too insistent on having each sound produced according to standard, especially if the pupil shrinks from speaking, or is nervous or self-distrustful, but should show the child in individual lessons how to correct his error. General hygiene should be carefully looked after, and as much special drill given on sound production as the child seems well able to bear. Often he can be shown, by example, just how to place his speech organs so as to master the baffling sound with ease. Lisping usually decreases rapidly from the first grade on to the sixth. It is commonly caused by the child's placing his tongue wrongly when his front teeth are missing — a habit sometimes continued after the new teeth have grown. Any

case that proves unusually troublesome or persistent should be referred to a specialist.

To stutter is " to utter with spasmodic hesitations or repetitions," or even not to utter at all. Most cases appear in childhood, and frequently before the age of six. It is three times as frequent among boys as among girls, the explanation being probably (in part at least) that so many more boys are left-handed and have their speech disturbed by being compelled to shift from the left hand to the right. The difficulty often dates from some disease or some mental shock such as fright. Scripture's explanation, as shown in Figure 16, is that a brain connection is blocked by some emotional disturbance. This appears reasonable, for if the individual speaks in a high voice, or sings, he may not stutter at all; he is using a different set of brain paths. Also, one who stutters when speaking his mother tongue is not likely to stutter

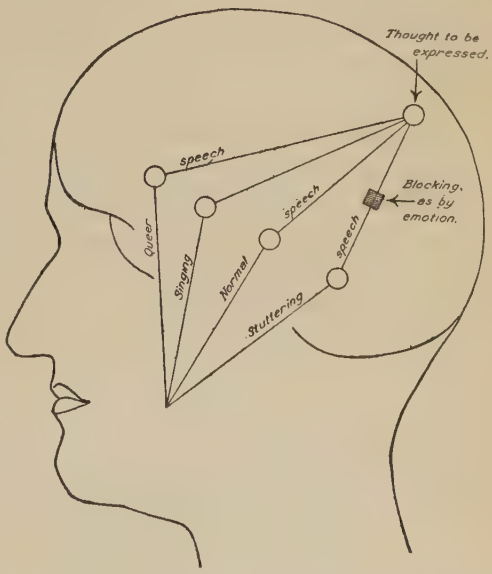

Fig. 16. — To illustrate the cause of stuttering. If the individual gets round the emotional blocking by using the high tones of "queer speech," or if he sings, he may not stutter. The cure consists in establishing brain connections for normal speech. (Adapted from Scripture's *Stuttering and Lisping*, p. 58. Macmillan.)

when speaking a foreign language, which he has learned later.

In nine cases out of ten, stuttering can be cured, and the cure can usually be effected in a few months. As the two great causes seem to be brain weakness (such as may result from the exhaustion of disease) and brain blocking, the two great remedies are bodily hygiene and mental treatment. Considerable success has been won by special health schools. The mental treatment consists in removing all inhibitors, such as family comment, or school ridicule, or obvious pity; and strengthening all facilitators, especially the feeling of confidence — "I *can* control my speech." While a special teacher is desirable, the mental treatment, with simple and carefully graded speech exercises, can be given by any teacher who has the confidence of the pupil and the patience to work with him.

FOR FURTHER STUDY

1. Cowper, gazing on the picture of his dead mother, wrote his well-known poem, "On My Mother's Picture," beginning with the words, "Oh that those lips had language." In it, he says:

> And, while that face renews my filial grief,
> Fancy shall weave a charm for my relief,
> Shall steep me in Elysian reverie,
> A momentary dream, that thou art she.

He then, in fancy, lives over his childhood, speaking to the picture as if it were his mother. Do you think there is any danger in this kind of imagination? Discuss.

2. Lying to one's self, or rather, using an affirmation such as "I'm not afraid," or "I don't care," sometimes helps to make the statement true. Show the relation of this to an appearance of egotism.

3. It is reported by some that a self-centered child can be made less selfish by giving him an animal to care for and seeing that he cares for it. What is your opinion of the remedy?

4. A woman went to her dentist, saying she had been cleaning house and that plaster had dropped into her mouth. The dentist, knowing her nature, pretended to remove something from her mouth with his forceps and then said, "There, I think you will have no more trouble with that." She declared herself much relieved, and was annoyed no further.

What do you think of this method of "pulling" an idea from the mind? Is it a case of imagination, hysteria, or what? Speaking in terms of brain paths, what change probably took place in the woman's brain?

5. See if you can discover any relation between the shut-in personality and the temperament of the subject. For example, do the sanguine talk much and the morose but little?

6. A five-year-old boy who had been overfed on prosy facts made much mischief at home, disobediently stoning the chickens, etc. A kindergartner remedied the situation by using the imagination cure, in the course of which the boy laid out fields, using pebbles for workers, and so on. Suggest ways in which imagination can be used to bring relief in the work of the elementary school.

7. A French chaplain who had suffered an injury in the head during a battle found that he had thereby lost all his power to read or speak Latin. The Pope granted him special permission to say his mass in French. Explain the case in terms of facts given in this chapter.

8. A nine-year-old girl was found to take pleasure in sitting before the mirror for hours at a time, crying. The explanation was that she belonged to a family of actors who had cultivated in her a desire to make an impression. A talk with the family led to the breaking of the habit. Name the traits involved and discuss their relations. If the diagnosis had been superficial, what wrong conclusion might have been reached?

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. The strong self. (Peters.)
2. Ignoring reality. (Morgan.)

3. The child's imagination. (Gruenberg.)
4. Handedness. (Beeley.)
5. Stuttering and lisping. (Scripture. Peppard.)

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CHAPTER XXVIII

Subintelligence, Superintelligence, Subaffect, and Superaffect

Exercise. — Which would you prefer to be, an individual with ordinary or rather low intelligence but with stable affects on which could be based a good character, or one of extremely high intelligence who is lacking in affect (at least in certain directions), and who makes his choices from an almost purely intellectual standpoint? Why? Which is likely to make the better citizen?

Affect and intelligence. — We have already distinguished between affect and intelligence. Intelligence, knowing power, comprises the intelligects, observation, memory, imagination, thought. Affect, feeling power, comprises not only the simpler feelings, but also emotion, mood, and sentiment. Intelligence enables us to sense and understand our world. Without affect, however, we should never react on it. Affect is the link between the intelligects and action. We have learned (in Chapter II) that one may observe-feel-act, observe-remember-feel-act, observe-imagine-feel-act, etc., according to his mental make-up and the level to which he rises.

Having taken this back-look, let us consider our terms. *Subintelligence* means, of course, low intelligence — below the average. The individual who has it does not " know " as much as he should. *Superintelligence* means high intelligence, above the average. Similarly, *subaffect* means affect below average; and *superaffect*, affect above average, be the intelligence what it will.

The word "feeble-minded" is used by very good authority [1] to include

> . . . all degrees of mental defect due to arrested or imperfect mental development as a result of which the person so affected is incapable of competing on equal terms with his normal fellows, or of managing himself or his affairs with ordinary prudence.

This would include all kinds of mental defect, whether of affect, or intelligence, or both. However, psychologists have awaked to the fact that they are either using this term "feeble-minded" in such a vague way as to lead to error, or they are inferring too much from the results of intelligence tests. In other words, an intelligence test is designed to measure intelligence only, and the affects, for the most part, not at all. One who fails in such a test may be feebly-intelligenced without being feebly-affected. His difficulty is subintelligence but not subaffect. Also, one who has superintelligence may not have "a good mind" or "a strong mind," as a whole. He has superintelligence but may or may not have superaffect.

Such differences, from the standpoint of character and morality, and hence from the standpoint of mentally hygienic education, are tremendous.

The genetic view. — Let us recall that the instincts, with their corresponding emotions, have been nature's great movers of man and beast from of old. Something frightful appears. Primitive man perceives it, undergoes an emotion of fear, saves himself by flight. Bad tasting food — disgust — spitting; a beatable enemy — anger — fighting; these and various other chains of reaction were provided for by inheritance. So long as both the environment and the brain that reacted to it were crude and simple, each major affect

[1] The American Association for the Study of the Feeble-Minded.

could be attached to some object or fairly definite class of objects.

But then nature added to man's brain an upper portion, less strongly marked with fixed reaction patterns and apparently less heavily loaded with affect. Imagination plays an increasingly important rôle. Man learns to get away from the objects themselves, to stop fumbling about so much in a trial-and-error way with his muscles, and to try things out in his head, with ideas. Now, these ideas must not be too heavily charged with feeling or they will be acted out at once. We see such cases occasionally, where one who has never danced, or driven a car, or swum, vividly sees himself doing it, feels strongly that he can, and plunges into action. The result may be merely a ludicrous failure or a plunge to death.

The outcome of the development suggested above is that the intelligects and the affects have become to some extent detached from each other. Dr. Guy G. Fernald has suggested [1] that " character " (affect) and intelligence do not develop in parallel steps ; for whereas intelligence is supposed to be mature at about the age of seventeen, character goes on developing for years thereafter. Also, if a child is weak in intelligence, we do not expect him to outgrow the difficulty, whereas we are lenient with erring youth, for we realize that moral appreciation is not yet mature, or educated.

Such considerations help us to understand how a child may " know better " and still be helpless to do better, and how even the saint finds himself doing the evil which his intellect has decided he shall not do, and in another direction failing to follow the course which his intelligence tells him is best.

[1] See his article, "Character as an Integral Mentality Function," in *Mental Hygiene*, Vol. II, No. 3.

Do intellect and affect have separate brain mechanisms?— As we approach any experience, the viewing of a play, the reading of a book, or some affair of everyday life, we find that we can set ourselves either to be affected by it, or to pass through it practically without affect. We can even do this with our sorrows, and are sometimes forced into such a course, as when we realize that saving the life of the sick calls for well-planned action and not mere tears. If in this latter case we do not nullify a feeling, we at least substitute one different from the original. Now, the perceptual or ideational experience of seeing a play or reading a book probably takes place in the same set of neurones and synapses, whether accompanied by affect or not.

The fact that we can separate ideas and feelings in this way strongly suggests that intellect and affect have brain mechanisms which, in part at least, are separate from each other. There seems little doubt that the lower part of the brain is the seat of the instinctive affects, the emotions, anger and fear lying lowest, and the more pleasurable feelings higher up. It seems very likely, too, that the simple sense-affects are located in, or near, the sensory centers, that pleasure in color, for example, is a process connected with the color centers of the occipital lobes. It is the author's belief that there is not only an affective battery, as we might call it, in the brain stem, but that each center of a completely equipped brain has in some way an affective mechanism of its own.

Phreno-mental defect. — If we may assume that intellectual and affective traits are largely independent, and that each trait has its own fairly definite center, we are better prepared to understand phreno-mental defect, both general and specific.

If there is generally defective affectivity, we shall expect that the instinct-emotion centers in the lower brain are either weak or not functioning properly, and that the affective condition will resemble that of dementia precox. If the subject is feelingful in one general direction but not in another, it is profitable to try to discover whether the cleavage takes place along the general lines of the primary emotions. If one lacks feeling for his own affairs, that is, self-assertion, but is equipped with social affect, he may be a Rip Van Winkle altruist. If there is slight affective response in either of these directions, he may be a lazy coward. The one who lacks sexual affect may grow into the cold-natured spinster or bachelor. Perhaps the most unfortunate and dangerous of all is he who is in a large sense socially indifferent, who can truthfully say of the condemnation of public opinion, " I don't care." The pupil who really does not care for the opinion of his mates is not only likely to be hard to discipline, but he has one of the qualifications for the making of a criminal.

The way is open, too, for the understanding of more specific and definite affective defect. From the standpoint of the intelligects, we do not consider it strange if a child is " word deaf," has a sort of blind spot in his brain where there should be a functioning center for the understanding of spoken words; or if he lacks the functioning neurones that would enable him to sing. Corresponding to these blind spots may there not also be what we might call, from the affective standpoint, desert spots, dry spots, portions of the brain void of the normal degree of affect and incapable of producing it? Probably there are other brain areas which are overproductive of feeling. If this is true, we have the phreno-mental explanation of possible inborn frigidities and indifferences, as well as natural enthusiasms and manias.

Pseudo-feeble-mindedness. — This term, "false feeble-mindedness," is not the name of any one well-defined difficulty, but is used in a general way to indicate a condition wherein any subject, usually a child, appears to be feeble-minded but really is not. The truly feeble-minded child early reaches a limit, set by his inheritance, beyond which he can not develop because, as we believe, there is nothing more in him to develop. The pseudo-feeble-minded appears to have reached such a limit but really has not. There is more in him to develop, but something prevents its development. He may appear to be feebly intelligenced, or feebly affected, or both.

Naturally comes the question, How find and remove the cause of the arrest? The known causes are various, and include malnutrition, disease, and certain abnormal conditions such as adenoids or visual defect. Burnham would add also, as causes, fear, understimulation or overstimulation, inhibition of will due to failure, and the formation of emotional complexes, such as, for example, a hypercritical attitude.[1] Obviously, such cases should go to a medical-mental specialist who, in turn, will often want the help of the teacher. These two, working with intelligent parents, should be able to bring the child into full possession of his bio-mental inheritance.

Mental hygiene of subintelligence. — Subintelligence, often treated as if it were the chief problem in mental hygiene, is not, in and of itself, primarily a problem for that science at all. The subintelligent mind may, in general, be either healthy or unhealthy. Many of the so-called "feeble-minded" are happy, and get along well in their communities, earning more than a living and serving society up to the limit

[1] *The Normal Mind*, p. 572 ff.

of their abilities. What more can be said of any of us? Indeed, Morgan states that "where the intelligence of a group is lower there is less mental maladjustment than where there is greater intelligence." [1]

Much has also been made of subintelligence as a cause of crime. Yet a survey of the intelligence of penitentiary prisoners has revealed, in some cases at least, that they rank almost exactly the same as soldiers in the American Army. As a matter of fact, we do not yet know the real relation of subintelligence to crime; for the child whose intelligects are of small caliber, with top-brain too weak to integrate him, and who accordingly is left in a childish condition which is likely to be very suggestible, is usually exposed, during his most formative period, his habit-forming age, to all sorts of evil examples and solicitations. As things are, we let the subintelligent form their evil habits and then encase their personalities in an institution where they may (or may not) learn the practice of better ways. It would be more logical to place them in the institution first and then, when they have learned stable and commendable social habits, to try them out in society where they will have as much friendly and supporting personal influence as they may need. Students of the subject seem increasingly in favor of keeping the subintelligent, so far as possible, not shut away in institutions, but under supervision in the community. Many of them are making good under such conditions.

Whether a subintelligent child offers any special disciplinary or moral problem in school depends less on his degree of intelligence than on his grade and type of affectivity. He does, however, need special help in solving some of his life problems. Vocation, for example, needs particular attention.

[1] *Psychology of the Unadjusted School Child*, p. 240.

He does not so much need more careful coaching in the ordinary curriculum as increased effort to find his peculiar ability and develop it. In a group of 250 cases of problem children examined in St. Louis, a study of the mechanical abilities of the boys showed that 44 per cent had a specialized mechanical ability that was quite beyond their general intelligence levels. Among the children classified as *subnormal* (subintelligent), 30 cases out of 168 were found to have such special mechanical aptitudes as would warrant training for mechanical occupations.[1]

Superintelligence. — Investigation indicates that a child of superior intelligence is likely to have a superior body also — a great asset in the maintenance of mental health. Yet even these advantages do not guarantee emotional balance. Among superintelligent children we find a considerable percentage who are victims of laziness, social timidity, hypersensitivity, fantasy, or other affective handicap.[2] The superintelligent child, then, presents much the same problem for mental hygiene as does any other child.

This problem may be accentuated either by retarding or rushing him, grading him too low or advancing him too rapidly to permit of full-orbed, symmetrical development. A comparatively few years ago, when the child of superior intelligence was first recognized as requiring special school adjustment, the prevailing plan was to have him skip grades as rapidly as possible, or at least until he reached the advanced grade which corresponded with his mental age. But further experience has brought the conviction that a

[1] Dr. V. V. Anderson, *The Psychiatric Clinic*, etc., a report published by The National Committee for Mental Hygiene.

[2] Irwin and Marks found ten such, whose efficiency quotients were low, in a group of superintelligent children numbering one hundred twenty-five. (See page 240 of *Fitting the School to the Child.*)

child's mind is much like a tree — to grow too rapidly tall is to grow too slender, and, in certain ways, too weak. More filling out is needed. School administrators began to report the appearance, in the high school, of "wrecks" who appeared to have broken or become emotionally warped under the strain of too rapid promotion. While superintelligent children can, and should, grow through the kindergarten-to-college curriculum in somewhat less time than the average, the present prescription is a specially enriched curriculum instead of the traditional one, and thoroughness rather than speed, the emphasis being placed on more expansive and better balanced lateral growth rather than rapidity of vertical ascension.

The mental hygienist congratulates the school administrator on this discovery, and would emphasize the lateral-growth tendency still further. The very aim of education is something greater than the development of intelligence, and especially "paper intelligence." If we concentrate on intellectual achievement merely, our pupil may not even score an intellectual success; or, if he does, he may at the same time register a failure as a total personality and as a social factor. It is rather a tribute to this truth, and not at all as a sneer at real scholarship, that we have coined such terms as "bookworm," "grind," and "blue-stocking." Mental hygiene would urge that more of the lateral growth spoken of take the form of affective culture, and that the child's superintelligence, under the guidance of great-hearted teachers, be turned in the direction of superior self-adjustment, self-management, and what may be called social vitality.

Subaffect and superaffect. — Adolph Meyer makes the following statement:

> The greatest problem is not that of feeble-mindedness [subintelligence]. There are plenty of good and well-behaved imbeciles. The point that concerns us all is that back of everything lie the yearnings, the *penchant*, the leanings of the individual's make-up and the equation of balancing factors of the individual and the social group — the capacity to balance the resources wherever there is a choice or a need of proper adaptation and substitutions.[1]

Healy lays down [2] a number of specific features of mental life which appear as causes in various types of delinquency. Among them are "mental dissatisfactions," as cravings, etc.; irritative reactions to environmental conditions; mental conflicts, worries, etc. Of the ten given, all, with the exception of one, which points particularly to subintelligence, have to do with the affects, and especially subaffect. Something moves the individual, of course, showing that he is not affectively dead; but whereas the disturbing impulse or craving would in a normal mind be balanced and controlled by another opposing affect, in the delinquent there is no power to quell the psychic insurrection. In this sense he is subaffected.

Most of the crime in the world is committed by a very small per cent of the population, composed of criminals known as *repeaters* or *recidivists*. A learned judge is authority for the statement that such criminals commit crime because their lower, or emotional, brains are defective. The trouble is incurable, and the criminal can not be reformed. He is a "brain cripple," and is likely, until he has committed a crime, to pass unsuspected by those about him because of his emotional disability.

While various attempts have been made to test and measure the affects, the achievement of the task probably

[1] *Suggestions of Modern Science Concerning Education*, p. 131. Article by Adolph Meyer.

[2] *The Individual Delinquent*, p. 32.

lies far in the future. Meanwhile, as already indicated (in Chapter XX), the teacher has an opportunity to ask in her daily work the most important of all questions — namely, how fast, how well, and how permanently can any given child proceed with *affective* learning? Working on the basis of the primary emotions, how effectively can he learn those derived emotions, appreciations, and sentiments which so largely constitute character and guide conduct?

Every school system should have in its service a specialist who has had psychiatric training, and whose work will consist, in part, in discovering and guiding into special restraining and developing institutions those children (I should like to say "all minors") who show themselves incapable of such affective learning as is necessary to fairly good conduct.

The implication of all this for schoolroom practice we can not develop here. But that we should work primarily for affective balance as the foundation of character and personality seems certain.

CLASS EXERCISE

In Figure 17, the "average" line represents the usual height of Intelligence (I) and Affect (A) in the general population. 1, 2, 3, and 4 represent individuals. 3, for example, is a person of superintelligence but subaffect.

Tell, in general, what kind of behavior you would expect from each of these individuals. Can you construct other types? What would be the ideal?

Is not such a scheme too general, since it requires the grouping of all traits of intelligence into one class and all those of affectivity into another? Should we not try to rate an individual as high and low in more specific traits? Compare Figure 17 with Figure 13, Chapter XI.

If a highly intelligent person can commit a murder in "cold blood," just what affective trait does he lack that prevents the normal person from doing such a thing? Is it necessary to assume that he is wholly defective emotionally? May he not show considerable feeling in other directions, such as self-assertion or sex affect?

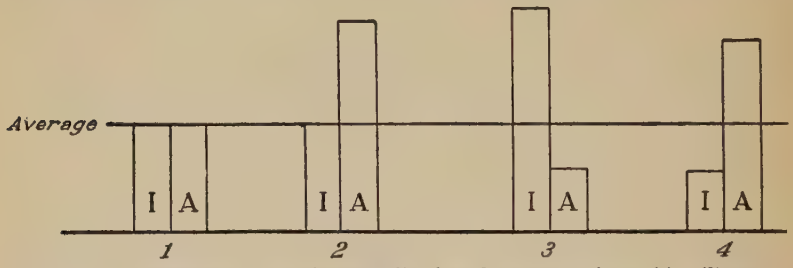

FIG. 17. — Suggesting types of personality based on proportions of intelligence and affect.

FOR FURTHER STUDY

1. In one school, an investigation of leadership and superintelligence among the children indicated that they have little if anything to do with each other. How can this be? Do you think it holds true generally?

2. Do you know of any case where a brain that contains a good intelligence machine (perhaps as indicated by test) appears to have been left under-energized, so that the owner does not actually stand high in achievement?

3. Should we recognize different kinds of intelligence, as in handwork, music, history, etc., or make use of other names to indicate these special traits?

4. Should we assume that every child who is found to be retarded in his school work is subintelligent? Can we make that assumption of all who rank low in an intelligence test? Give reasons.

5. In days long gone by, there was no such thing as stealing, but each seized what good things he could. Show that we now have to educate out of children the qualities that would once have made them heroes.

6. When Thomas A. Edison was between seven and eight years old, his teacher told him he was "addled." He "sobbed out the story" to his mother, who consoled him, took him out of school and taught him herself, and never again entered him in a public school. How would you, as a teacher, have dealt with the case as you understand it?

7. If a prisoner is shown to be weak in intelligence, the judge is likely to be lenient with him; but if he is shown to be weak or warped in his affective life, there is usually no clemency on this account. Is this right? What should be done?

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. Intelligence and mental conflicts. (Morgan.)
2. The delinquent as deviate. (Mateer.)
3. Uses of intelligence tests. (Terman.)
4. Pseudo-feeble-mindedness. (Burnham.)
5. Balancing factors. (Wells.)
6. "The gifted child." (Irwin and Marks.)

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CHAPTER XXIX

The Mental Hygiene of Adolescence

Exercises. — 1. Write a brief account of the chief changes in your own personality from, approximately, age twelve to age seventeen. Were there any new problems of mental hygiene to be solved?

2. Visit first some of the intermediate grades (grades 4–6) of a school, and later, some of the junior and senior high school grades. Can you discover any differences in the fundamental traits of the two classes of learners? Judged from the standpoint of mental hygiene, is the service of a teacher to her pupils very different in the more mature group from what it is in the younger?

The nature of adolescence. — I can not agree with those rhapsodists who sing of adolescence as if it were a golden age, or perhaps a brazen one, far removed from the childhood that preceded it or the adult life that follows it. The adolescent does not suddenly emerge from a chrysalis, spread his wings and take flight. I do not even believe he repeats the adolescence of the race, for I know of nothing to show that the race has yet completed its adolescence. To a careless observer, adolescent life may seem saltatory and full of gaps, but actually it represents continuous development. Further, one who wishes to understand any individual adolescent will find more light in a study of his near ancestry and his childhood than he will in all the ancient history of the human race.

The child continues to grow, of course. He develops longer legs, and a larger body with greater strength. The

first carry him into a bigger environment, and the second, if he has ordinary adaptive powers, make it safe for him to thread that environment alone. In the limited scope of his home life, he had to make good with his parents and so deferred to them. As he goes out from home, parental care in many cases recedes, and as he now has to make good with those he mingles with, there is an accession of social authority. With maturing life come, of course, the problems of maturity.

But the same old fundamental traits of childhood remain, the instincts with their primary emotions, fear, anger, disgust, and the other members of the group that we have studied. Further, all these traits are growing, or at least the affects are spreading to new objects; and as trait centers do not grow equally, and as exposure to the enlarged environment and hence to new stimuli is likely to be unequal, we should expect at least as much unevenness in the mental life as has appeared in childhood. As an offset to this, however, the upper, integrative centers of the brain continue to increase in function, insuring, as soon as they have had practice, greater self-control than ever before.

So far, adolescence appears to be about what we should expect of any sexless, neuter creature which continued to develop and to explore a larger circle of environment. But one fundamental trait now requires more concentrated attention, that of ripening sexuality. That its presence intensifies all the rest is very likely. But that its influence and power as a supposed organizing core of personality has been greatly exaggerated by another type of rhapsodist, the rhapsodist of sex, is also very likely.

General aim of the mental hygiene of adolescence. — Our general aim is of course suggested by the old text, self-adjust-

ment and self-management. But we find at this period (1) a home environment growing relatively weaker, (2) a social environment growing relatively stronger, (3) a very influential new trait developing, and (4) new possibilities of understanding and control coming into play. From the youth we expect gradually less perceiving-feeling-acting and more perceiving-imagining-feeling-acting and perceiving-thinking-feeling-acting.

Our program, then, consists in seeing that the home gradually releases its grasp of dictatorial authority without giving up interest in and affection for its product; that the environment provokes a vigorous response of understanding, appreciation, and action, but does not defeat or wreck its initiate; that the sex life is understood and guided; and that youth receives special and tactful training in self-understanding, self-determination, and self-control. If we have done our duty to the child, we have long in advance prepared the way for adolescence.

Guarding against the mental diseases of adolescence. — Let us first consider the negative side of adolescent mental health. There is almost no form of mental illness, aside from senile dementia, which may not appear at this age. Doubtless many enter a state bordering on a psychosis of some kind, but learn stability, as it were, and are saved. Richard Wagner, for example, once joined a frenzied crowd and behaved so wildly that next day he was in a condition resembling that which follows a drinking bout, though he had drunk nothing intoxicating, and had to convince himself by a trophy, the tattered remains of a red curtain, that he really had done what he thought he had.

Probably the most typical mental ailments of youth are hysteria (especially among girls) and dementia precox.

Most cases of hysteria appear before the age of twenty. While there is little doubt that the hysteriac is chiefly born rather than made, nevertheless the efforts of the teacher may prevent some from being made. The chief marks of the hysteric disposition appear to be poor integration and control; readiness to succumb to any unusual strain, to fatigue, or to some strong emotion such as fear or sexual passion; self-deception; generally low ideals and faulty character (with presumption of rather low intelligence); and the random and often unconscious operation of facilitators and inhibitors. We may be able to help by reducing strain, warding off emotional shock, establishing regularity in daily living, building up a frank, free, and unified association of ideas of all sorts, encouraging adherence to ideals well within reach, and stressing stability and reliability in the simple routine of conduct required.

Dementia precox claims more victims than any other well-defined form of insanity, numbering perhaps one-fourth of all cases. Yet good authority classes no less than 39 per cent of it as manageable and preventable.[1] Stedman gives, as prominent among the symptoms of its approach, failure of attention and concentration, everything seeming like "a dead weight"; quick fatigue and loss of initiative, with resulting depression; over-conscientiousness, seclusiveness, and marked indecision. Later appear confusion, failure of judgment, and capricious, unreasonable conduct. The most likely bodily symptoms are insomnia, poor appetite, headache, and undernourishment, that is, subassimilation. The general bodily condition comes to resemble that of "nervous prostration."

[1] See Dr. Henry R. Stedman's *Mental Pitfalls of Adolescence*, distributed by The National Committee for Mental Hygiene.

Among preventive measures, the three most important points to aim at, according to Clouston, are " fatness, self-control, and orderliness." Stedman also emphasizes bodily hygiene first, and especially the building up of bodily reserves through three good meals a day. Even college students are found nibbling and hurrying at meals, and feasting on sweets and pastry between meals. Faithful feeding should be followed up with a full hygienic program, including quiet, congeniality, and good companionship.

Two of the largest mental objectives are to " pierce the shell of secretiveness " of the shut-in personality, and to ward off overexertion or high excitement such as may be engendered by too high expectations on the part of relatives, or the " coming out " of the debutante. As in the case of threatened hysteria, care should be taken, by means of a simple, well-ordered program, to strengthen the sensori-motor neurones in the lower brain, the seat of the basic emotions whose ebbing means serious mental disease. Only in this way can we lay an adequate foundation for the later superstructure of higher brain centers and higher ideals, whose too early development may mean conflict and disaster.

Adolescence and the fifteen rules of mental hygiene. — In childhood, one must have the rules of health administered for him and to him. In adult life, he should be able to administer them to and for himself. Adolescence marks the passing from the first stage to the second. This can best be accomplished by living with healthy-minded leaders, gradually taking over as much self-authority and management as can be used wisely.

Some have discovered in adolescents a real craze for self-knowledge. In reasonably good families, where depressing facts are not likely to be unearthed, one of the very best

sources for such information is the study of the family tree and of such ancestral biographies as may be available. Let youth study its inheritance and make the most of it.

Hygiene of body and brain is best learned by contact with those who practice it. The lesson to teachers is obvious.

The environment of the family may or may not be suitable. Some adolescents are too apt to remain at home no matter where the home is, while others are too apt to wander, no matter where. The school should help to place each in such locality and vocation as will enable him to avoid extreme conditions of stimulation, inhibition, and fatigue.

Self-adjustment is one of the great danger points. The pampered youth from the luxurious home is weaker, with all his family resources, than many a graduate of the street. The question is, Which has learned better to keep in touch with the world and play his part in it, to recognize and accept real conditions and actively meet them, and to practice adaptability?

Self-management, however, is the art of arts which the adolescent has to learn, for it is largely the art of living. In my judgment, all high school students should have the privilege of at least a brief practical course in psychology, wherein to learn introspection and out-mindedness. It would help to do away with the invisible government found in abnormals, that of the subconscious. It would also help youth to understand the working forces of personality, to sublimate rather than regress, to pit trait against trait in self-management, to form a mental constitution, and to rise to the serene level of a constantly maintained integration.

The shifting balance of trait centers in the brain of a youth makes him uncertain as to the personality he wishes to be. Consequently, he is likely to practice quite a number

of personalities successively, posing, acting, exploring, trying on characters as he does clothes. Ultimately, let us hope, his leading traits will be permitted to lead, all being integrated, organized for the achievement of a dominating life purpose. But it may take a score of years for this.

The greatest need of the adolescent. — The period of adolescence is preëminently the time " when a feller needs a friend."

Granted good inheritance, with good mental hygiene throughout childhood, adolescence presents no real problem for which we can not now see a satisfactory solution. The thoroughbred in a good environment is likely to enjoy a smooth transition from childhood to adulthood. Clouston believes that those who undergo great mental and moral changes at adolescence usually have hereditary tendencies that make for nervousness, coming " of families or stocks in which drunkenness, eccentricity, genius, or insanity have appeared."

But conditions precedent to adolescence may not have been favorable, the home may point the shafts of ridicule instead of extending hands of sympathy, the enlarged environment may seem strange and overwhelming, and the enlarged inner life a disagreeable perplexity. The youth, not sensing what it all means, may not realize that others are like him, and so hesitates to place his supposedly peculiar self on humiliating display. Perhaps his parents unwittingly have exaggerated this tendency by encouraging his self-love. Further, he may have been led by books, preaching, teaching, and otherwise to form ideals so artificially high that all real life seems hopelessly vulgar. As the conscientious young man, approaching marriage, is likely to doubt his own fitness for it and wonder whether he is doing right to undertake its

responsibilities, so youth may distrust its power to cope with the problems which now arise, the greatest that life presents.

The prime need of this age is for an understanding, sympathetic friend, one who will take the budding young man or woman seriously, democratically, kindly, and "on the level"; who knows how to reduce troubles to their proper perspective; who realizes that it is an ultimate saving to "waste" time and energy on harmless enthusiasms; who knows the difference between liberality and looseness; who appreciates confidences; who realizes that ideals are being formed, and unobtrusively helps to form them aright; and who, without saying anything about it, can see the swan in the ugly duckling and wait for the moulting.

Adolescence and the life problems. — The adolescent solution of the life problems will not improbably be the life solution, seriously affecting all future mental health.

The physical unfitness of our young men at the time of the World War turned the mind of the school increasingly toward health education. "Health first" is coming to be our motto. Our high school students are not ready to graduate unless we have led them to prize health so much that they will seek it and pursue it, following its discipline of their own volition.

The school is also undertaking to engineer the problem of recreation, teaching "the wise use of leisure"; and also the problem of vocation, helping to find where the talent will fit the task. It seems often to be assumed that adolescence is a time for leaving school. It ought to be, in some schools. But let our curricula be widened until the handworker, equally with the brainworker, can feel that he is being tried out and guided wisely toward his craft, and school will then

be the sure road to success. Granted this, why should one leave it?

Scarcely does the school feel as yet that it has any directive or guiding duty in helping to the wise choice of a marriage mate. This attitude will change. Matrimonial guidance will become as common as vocational guidance, and will be as deftly administered. It is really Nature that has conditioned all choices, both vocational and matrimonial; our task is to find out what she has made possible and best. In both fields, we must guard against parental dictation and overinfluence. We all know of families in which parents, mentally blind or selfish or both, have so wrested and fixed the affects of their children that no independent choice was possible. Son or daughter makes no choice, or makes a foolish one, because father or mother so determined it. Perhaps the time will come when we can do more about such cases than merely to exclaim, "Ye fools and blind!" Yet on the other hand we must guard against another type of blind fool, represented by the youth and maid who elope to-day and are divorced to-morrow. In the field of eugenics and the sex life there is room for great improvement in our education.

Citizenship and religious membership are no longer one, as they were in some of our early American colonies; and the school has shifted from its first aim of preparing for life in the next world to that of preparation for citizenship in this. The growing emphasis on world citizenship should challenge the ambition so often expressed by adolescents, "to make the world happier and better."

The philosophy of life which youth adopts comes partly from the church — but largely, by what we may call unconscious absorption, from the general environment. Here,

again, let us have no dictation. The clash of creeds and the light of reason must have convinced us long ago that there is no one and only way to save a soul. Whoever wishes to leave any church or prefers to enter another should receive, as he fares on his way, both the parental and the sacerdotal blessing. Perhaps one of the largest services we can perform for the mind of youth, as it attempts to keep itself stable in a world of tossing thought, is to offer, toward the close of the high school years, a simple, practical course in the philosophy of life.

FOR FURTHER STUDY

1. Consider the adolescents known to you. Does parental authority seem to be withdrawn too soon, too late, or at the proper time? What of parental *care and watchfulness?*

2. Does your observation bear out the belief that good inheritance means a smoothly transitional adolescence, and that cataclysmic experience at this period is likely to be found in families of lower biological grade? Have you any comment to offer on this?

3. Make a quick review of Chapter XIV on "Sex and the Love Life," and Chapter XXV on "Sex Education," stressing and perhaps adding such points as seem necessary to round out adolescent education in this field.

4. What is the meaning, to you, of the phrase, "philosophy of life"? Try to give examples of topics, questions, or problems which would be included in such philosophy. Can you see what practical differences result from the philosophy one holds?

5. Among savages, adolescence generally comes earlier than among us, and is sooner over. An adolescence occurring at normal age and rather prolonged is considered favorable. Can you draw any conclusion from these facts?

6. Make a list of the points of comparison (if you can find any) between adolescents and adults. What does the result of your effort mean to you?

7. Adolescence is, in general, a period in which there is high incidence of bodily ill health but low percentage of deaths. Do you think there are any corresponding facts for the mental life of the period? If so, what do they mean for the teacher?

8. It is found that the most dangerous time in the moral life of youth is the year after leaving school. Discuss the post-school period and the school's duty with regard to it.

9. Pechstein and McGregor call attention to the fact that religion, crime, and intelligence all reach their high points in the middle teens (about age sixteen). What does this signify to you?

TOPICS FOR SPECIAL INVESTIGATION AND REPORT

1. Physiological changes and characteristics of adolescence. (Pringle. Hall.)
2. Psychology of adolescence. (Pechstein and McGregor. Hall.)
3. Mental pitfalls of adolescence. (Stedman.)
4. Adolescence and high school problems. (Pringle.)

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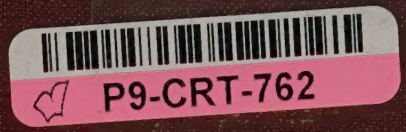
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